

OPERATION FORAGER: AIR POWER
IN THE CAMPAIGN FOR SAIPAN

A thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE

by

MARK D. TATE, LCDR, USN

B.A. Berry College, Mount Berry, Georgia, 1982

Fort Leavenworth, Kansas


1995

AD BELLUM

PACE PARATI

Approved for public release; distribution is unlimited

19951011 038

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 2 June 1995		3. REPORT TYPE AND DATES COVERED Master's Thesis, 2 Aug 94 - 2 Jun 95
4. TITLE AND SUBTITLE OPERATION FORAGER: Air Power in the Campaign for Saipan			5. FUNDING NUMBERS	
6. AUTHOR(S) Lieutenant Commander Mark D. Tate, US Navy				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Command and General Staff College ATTN: ATZL-SWD-GD Fort Leavenworth, Kansas 66027-6900			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
				
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release, distribution is unlimited.			12b. DISTRIBUTION CODE A	
13. ABSTRACT (Maximum 200 words) This study is an examination of historical data to determine the effectiveness of air power in supporting operations during the battle for Saipan during June and July 1944. The battle was fought during a critical phase of World War II, over an island whose strategic significance would become manifest during the war's closing months. The Japanese correctly believed that losing Saipan would mean the beginning of the end for the Empire. The study determines that the role of air power was critical in protecting the amphibious force, defeating the Japanese fleet, decimating land-based Japanese air forces, and supporting the troops on the ground. Air power at Saipan created an environment which made an American victory inevitable. The study examines the assets available and their effectiveness in various types of air support employed at Saipan, and looks at joint air employment. It concludes that anti-air combat and airfield interdiction were highly successful, while fleet action and close air support were moderately successful. It examines factors involved and the results produced. It concludes that joint operations were conducted, but that these were operations of coexistence rather than real coordination. DTIC QUALITY INSPECTED 8				
14. SUBJECT TERMS Air Power in the Campaign for Saipan			15. NUMBER OF PAGES 127	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT Unlimited	

GENERAL INSTRUCTIONS FOR COMPLETING SF 298

The Report Documentation Page (RDP) is used in announcing and cataloging reports. It is important that this information be consistent with the rest of the report, particularly the cover and title page. Instructions for filling in each block of the form follow. It is important to *stay within the lines* to meet optical scanning requirements.

Block 1. Agency Use Only (Leave blank).

Block 2. Report Date. Full publication date including day, month, and year, if available (e.g. 1 Jan 88). Must cite at least the year.

Block 3. Type of Report and Dates Covered. State whether report is interim, final, etc. If applicable, enter inclusive report dates (e.g. 10 Jun 87 - 30 Jun 88).

Block 4. Title and Subtitle. A title is taken from the part of the report that provides the most meaningful and complete information. When a report is prepared in more than one volume, repeat the primary title, add volume number, and include subtitle for the specific volume. On classified documents enter the title classification in parentheses.

Block 5. Funding Numbers. To include contract and grant numbers; may include program element number(s), project number(s), task number(s), and work unit number(s). Use the following labels:

C - Contract	PR - Project
G - Grant	TA - Task
PE - Program Element	WU - Work Unit Accession No.

Block 6. Author(s). Name(s) of person(s) responsible for writing the report, performing the research, or credited with the content of the report. If editor or compiler, this should follow the name(s).

Block 7. Performing Organization Name(s) and Address(es). Self-explanatory.

Block 8. Performing Organization Report Number. Enter the unique alphanumeric report number(s) assigned by the organization performing the report.

Block 9. Sponsoring/Monitoring Agency Name(s) and Address(es). Self-explanatory.

Block 10. Sponsoring/Monitoring Agency Report Number. (If known)

Block 11. Supplementary Notes. Enter information not included elsewhere such as: Prepared in cooperation with...; Trans. of...; To be published in.... When a report is revised, include a statement whether the new report supersedes or supplements the older report.

Block 12a. Distribution/Availability Statement. Denotes public availability or limitations. Cite any availability to the public. Enter additional limitations or special markings in all capitals (e.g. NOFORN, REL, ITAR).

DOD - See DoDD 5230.24, "Distribution Statements on Technical Documents."

DOE - See authorities.

NASA - See Handbook NHB 2200.2.

NTIS - Leave blank.

Block 12b. Distribution Code.

DOD - Leave blank.

DOE - Enter DOE distribution categories from the Standard Distribution for Unclassified Scientific and Technical Reports.

NASA - Leave blank.

NTIS - Leave blank.

Block 13. Abstract. Include a brief (*Maximum 200 words*) factual summary of the most significant information contained in the report.

Block 14. Subject Terms. Keywords or phrases identifying major subjects in the report.

Block 15. Number of Pages. Enter the total number of pages.

Block 16. Price Code. Enter appropriate price code (*NTIS only*).

Blocks 17. - 19. Security Classifications. Self-explanatory. Enter U.S. Security Classification in accordance with U.S. Security Regulations (i.e., UNCLASSIFIED). If form contains classified information, stamp classification on the top and bottom of the page.

Block 20. Limitation of Abstract. This block must be completed to assign a limitation to the abstract. Enter either UL (unlimited) or SAR (same as report). An entry in this block is necessary if the abstract is to be limited. If blank, the abstract is assumed to be unlimited.

OPERATION FORAGER: AIR POWER
IN THE CAMPAIGN FOR SAIPAN

A thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE

by

MARK D. TATE, LCDR, USN
B.A. Berry College, Mount Berry, Georgia, 1982

Fort Leavenworth, Kansas
1995

Approved for public release; distribution is unlimited

MASTER OF MILITARY ART AND SCIENCE

THESIS APPROVAL PAGE

Name of Candidate: Lieutenant Commander Mark D. Tate

Thesis Title: Operation FORAGER: Air Power in the Campaign for Saipan

Approved by:

Kevin Garrison, Thesis Committee Chairman
LTC Kevin Garrison, B.S.

Thomas M. Huber, Member
Thomas M. Huber, Ph.D.

Richard P. Ferguson, Member
CDR Richard P. Ferguson, B.S.

Accepted this 2nd day of June 1995 by:

Philip J. Brookes, Director, Graduate Degree Programs
Philip J. Brookes, Ph.D.

Accession For	
DTIC GRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

OPERATION FORAGER: AIR POWER IN THE CAMPAIGN FOR SAIPAN by
Lieutenant Commander Mark D. Tate, USN, 119 pages.

This study is an examination of historical data to determine the effectiveness of air power in supporting operations during the battle for Saipan during June and July 1944. The battle was fought during a critical phase of World War II, over an island whose strategic significance would become manifest during the war's closing months. The Japanese correctly believed that losing Saipan would mean the beginning of the end for the Empire.

The study determines that the role of air power was critical in protecting the amphibious force, defeating the Japanese fleet, decimating land-based Japanese air forces, and supporting the troops on the ground. Air power at Saipan created an environment which made an American victory inevitable.

The study examines the assets available and their effectiveness in various types of air support employed at Saipan, and looks at joint air employment. It concludes that anti-air combat and airfield interdiction were highly successful, while fleet action and close air support were moderately successful. It examines factors involved and the results produced. It concludes that joint operations were conducted, but that these were operations of coexistence rather than real coordination.

ACKNOWLEDGEMENTS

I am deeply grateful to all the people who have assisted me in this endeavor. In addition to the invaluable assistance of my thesis committee, I acknowledge the outstanding support of the staff of the Combined Arms Research Library at Fort Leavenworth. I also extend my sincere thanks to the staff at the Air Force Historical Research Facility at Maxwell Air Force Base for their important contributions of valuable information and their willingness to help.

TABLE OF CONTENTS

	<u>Page</u>
APPROVAL PAGE	ii
ABSTRACT	iii
ACKNOWLEDGEMENTS	iv
LIST OF ILLUSTRATIONS	vi
LIST OF ABBREVIATIONS	vii
 CHAPTER	
1. INTRODUCTION	1
2. REVIEW OF LITERATURE	10
3. RESEARCH METHODOLOGY	15
4. SETTING THE STAGE	18
5. THE BATTLE BEGINS: THE EARLY PHASES	30
6. AIR OPERATIONS DURING THE BATTLE	52
7. CLOSE SUPPORT OPERATIONS	66
8. CONCLUSIONS	91
ILLUSTRATIONS	102
ENDNOTES	108
BIBLIOGRAPHY	116
INITIAL DISTRIBUTION LIST	119

LIST OF ILLUSTRATIONS

	<u>Page</u>
TABLE	
1. AIRCRAFT DESIGNATIONS	102
2. TASK GROUP COMPOSITION	103
3. ESCORT CARRIER GROUPS	103
4. D-DAY STRIKE MAKEUP/ORDNANCE (PARTIAL LIST)	103
FIGURE	
1. MAP OF THE MARIANA ISLANDS	105
2. MAP OF SAIPAN	106
3. MAP OF THE PACIFIC	107

LIST OF ABBREVIATIONS

AAF	United States Army Air Force
AP	armor piercing shells
BB	battleship
BLT	battalion landing team
CA	heavy cruiser
CL	light cruiser
CAS	close air support
CNO	Chief of Naval Operations
COM	commander (prefix, as in COM5THFLT, Commander 5th Fleet)
CTF	commander, task force
CTG	commander, task group
CV	fleet or fast aircraft carrier
CVL	light carrier
CVE	escort carrier
DD	destroyer
DE	destroyer escort
Div	division (suffix)
JCS	Joint Chiefs of Staff
LC	landing craft
LCI	landing craft, infantry
LCM	landing craft, mechanized
LCVP	landing craft, vehicles and personnel
LSD	landing ship, dock
NAS	naval air station
RON	squadron (suffix, as in PATRON 6, Patrol Squadron 6)

Sc air search radar

Sg surface search radar

Tf task force

TF51 Joint Expeditionary Force (VADM Richmond K. Turner, commander)

TF52 Northern Attack Force, Saipan and Tinian

TF53 Southern Attack Force, Guam

TF 51.1 floating reserve, carrying 27th Division (U.S. Army)

CHAPTER ONE

INTRODUCTION

The Statement of the Problem and Its Relevance

The research questions to be examined are as follows: How effective was the air campaign in supporting amphibious force projection operations during the Saipan campaign, and to what extent could it be considered a joint effort? In an era of increasing emphasis on joint operations, a study of how these operations were conducted (or at least attempted) during the Pacific War, or even how they were avoided, can be of great significance to military scholars today. If some lessons can be learned in this area from the greatest land, air, and naval war in history, they may be of great value in creating doctrines and operational relationships which will enable modern planners to continue to field an effective military in an increasingly austere fiscal environment. In short, the study of jointness in the past can help provide modern naval aviation and its counterparts in the sister services with the proper context to make jointness possible and successful today.

The campaign to regain the Marianas, and Saipan in particular, provides an ideal laboratory for the study of how American commanders used air power from all the services at their disposal to accomplish a very difficult mission, and it can provide an understanding of the relationships of the services to each other in the larger scheme of things. The use of joint forces was really still in its infancy during World War II, and the

ways that were found then to solve the many problems which arose and to capitalize on the strengths of joint forces are still very relevant.

Secondary Questions

One secondary question is, simply asked: How was the use of the various sea and land-based air assets planned and executed in support of the amphibious operations necessary to capture the heavily defended Japanese bastion at Saipan? Admiral Chester Nimitz's Operation FORAGER, the plan to attack and seize Saipan, Tinian, Guam, and the other islands in the archipelago, was the most ambitious campaign in size and scope attempted in the Pacific to that point. As a result it required the most assets and the most detailed and careful planning. The use of air power in that campaign, including its strengths and weaknesses, may provide powerful lessons and insights for the present, in a day when the value of air power and its ultimate ability to strategically influence the outcome of a campaign or a war are still very much in debate.

The current world military and fiscal environment makes it more critical than ever before that current strategists determine realistically what can and cannot be done with air power. A realistic look at a major historical example can be of great value. Also, the renewed emphasis on littoral warfare serves to highlight the relevance of successful past uses of air power in support of amphibious forces.

Another secondary question relates to how the conduct of the overall battle affected the air campaign. It asks: What were the needs of the forces involved on the ground and on the sea for support from the air, what were the assets available, and how were they used? Another secondary question is closely related: Was this truly a joint operation or primarily

an effort by carrier-borne naval air assets? If a case can be made that it was joint, was this the result of a conscious decision by American commanders that joint air forces were the best mix to accomplish the goals of the naval and ground forces, or was it something that came about by the natural progression of the war, by temporary expediency, or by simple chance?

The answers to the several facets of this secondary question may shed much light on the machinery of the American juggernaut in the Central Pacific as it began what would have been the greatest amphibious operation in history except for Operation OVERLORD, which was being carried out halfway around the world at almost exactly the sametime.

Yet another secondary question asks how the above considerations regarding assets available and their uses affected the conduct of combat operations in the campaign for Saipan, and whether they adversely or positively impacted operations. Relating to the latter, the question is raised whether the American use of air power was carried out in the most effective way considering the assets. This is especially relevant to the military of today, since in the current environment of austere military resources, duplication of effort, waste of time, and waste of manpower or materiel appear increasingly unaffordable.

Limitations and Delimitations

The scope of the battle and the number and scale of operations involved necessitated placing some limits on the topic in order to keep it focused and manageable. The time limitation was simply the months during 1944 in which preliminary operations related to FORAGER were conducted, as well as the period in June and July in which the battle itself was fought,

a period which was arguably the most pivotal time of the conflict in the Pacific. The start point will be those early operations related to the Saipan operation, but these will be examined only to the extent that they are relevant to the battle for Saipan itself. The primary focus will be the phase beginning after the arrival of American naval forces in the Saipan area. The end point will be the end of organized resistance on Saipan, 9 July 1944.

It was 1944 that would prove to be the pivotal year of the war in the Pacific, as America and her allies crossed the line from simply holding the initiative to dominating the Japanese in every facet of the war. The campaign to take the Marianas was one of the focal points of this year, and the Saipan campaign was the focal point of the effort to take the Marianas. The study will therefore focus on Saipan itself and not the other islands in the Marianas chain or other areas, except as they relate to this battle.

The study primarily discusses tactical considerations in-theater, therefore strategic operations, such as the subsequent B-29 campaign against the Japanese home islands, were not considered. The strategic plans and directives of the overall Pacific commanders were not examined, except where they had a direct impact on tactical operations in the Saipan arena. Events in the United States or any other theater were not considered unless they had a direct bearing on the battle.

The study did not examine ground or naval surface operations except as they affected air operations. This delimitation was loosely applied at times due to the constant interaction between air, ground, and naval forces. The study concentrated on only those operations where naval and/or land-based air power played a major role in the outcome.

This included efforts to prepare and support the attacks on Saipan and in the immediate area of operations. It investigated the use of fleet air assets to disrupt and destroy the Japanese Navy in its efforts to thwart American plans by attacking the supporting American fleet and amphibious force. It also looked at operations on the Japanese side in this regard.

These operations resulted in the greatest carrier air battles in history, with some of the most one-sided results. This was true especially in the battle later known as the "Great Marianas Turkey Shoot," in which an American carrier air force destroyed most of what remained of the Japanese carrier air arm and robbed the Japanese Navy of most of its remaining combat-experienced and highly trained pilots.

After Saipan, the contribution of Japanese air power to the fight against the U.S. Navy was largely confined to the desperate use of kamikaze aircraft, which though sometimes very effective in particular engagements, stripped them of even more of their precious aircraft and pilots. This study examined the implications for both sides during the subsequent land battles as well as the influence of air power in shaping the environment for the fighting on the ground, but the Marianas Turkey Shoot itself was studied as a part of the overall campaign, and not as the focus of it.

Social, economic, and political considerations were not examined unless their impact was deemed to be of extreme importance. The focus of this research is primarily military and did not generally delve into other realms.

The topic was not limited to the inclusion of air operations exclusively, but also included some related operations or factors which served to shed light on the battle or its implications for the Americans or

the Japanese. These included the interaction between aircraft and ground or shipboard personnel to coordinate such operations as air intercepts or strikes on ground targets.

The Significance of the Study

The relevance of the study to modern military concerns has been briefly discussed. Much of that relevance is due to the significance of the Saipan campaign to the history of World War II and to the development and use of air and amphibious forces as a team. It was a great laboratory for learning methods of integrating new battlefield instruments and tactics.

The critical nature of the fight for Saipan came from the fact that it was not just an attempt to win some territory back from the Japanese. It was the stepping-stone needed to allow America's air power to begin to mount systematic bombing raids on the Japanese mainland. The great airbases that the Americans would soon construct on the captured islands of the Marianas not only allowed tactical air power to deliver more punches to the Japanese military in the area, but also allowed the U.S. to apply the enormous potential of strategic air power to the Japanese home islands themselves. This was the ultimate strategic value of the Marianas, and why the fight to take them was so critical.

This was why the efforts of American forces were so great, and why the Japanese resistance was so desperate. In addition to these considerations, Saipan was an important supply base and communications center for the Japanese military throughout the Central Pacific, and this contributed even more to their determination to fortify it heavily and defend it to the death.¹

This campaign was also the largest example up to that time of large air, ground, and sea forces working together in unison, and many procedures were either changed or became firmly entrenched in tactical doctrine due to the experience gained here. There are few other examples in history of an air-land-sea battle of this scope, and its significance is magnified by this. As Samuel Eliot Morison wrote,

Added together, "OVERLORD" in Europe and "FORAGER" in the Pacific made the greatest military effort ever put forth by the United States or any other nation at one time.²

Many such problems of complexity and organization would be faced by a force today in a similar force projection scenario, and lessons learned at such a high price should be carefully considered. The application of air power in future operations, similar in purpose or scope to those in the Pacific in World War II or to other operations which may not seem similar but which contain many problems that have been dealt with before, should be planned and studied in such a way as to benefit from the lessons of history. The size of the operation added enormously to the complexity of planning and the amount of coordination involved. As a result, much of our later doctrine was based on our experiences in the Saipan campaign.

Assumptions

It was assumed air power played a significant role in the battle for Saipan and that the effects of this could be studied. It was assumed there were diverse air elements involved and some cooperation and coordination, or at least some attempts in this area, were required between disparate service elements. This was necessary in order to examine any joint implications of these operations. It was assumed that some forms of cooperation were necessary if for no other reason than to avoid mutual

interference, but also to enhance the success of the war's prosecution and the prosecution of this particular campaign. It was assumed that each force did not conduct its operations in a vacuum, but was informed and aware of at least the general plan of the other. It was also assumed that some insight on this could be gained from an examination of these operations.

It was assumed that, these events having occurred some fifty years ago, almost none of those directly involved in them are able to shed any more light on them. As a result, the sources of research available were limited to those writings which already exist.

It was further assumed that the use and threat of naval air power as well as land-based air power had a pervasive influence on the outcome of the battle and, further, that this had consequences which reached beyond Saipan into other phases of the war. It is reasonable to assume that tactics and decisions which either worked well or clearly did not work were considered in the planning and execution of the remainder of both the Pacific "island-hopping" campaign and the war against the home islands.

Definition of Terms

For purposes of this thesis, "joint operations" refers to operations where two or more distinct services, particularly the Navy and the Army, worked together for the planning and completion of an operation. Operations including just the Navy and Marines are not considered joint. "Fast carriers" refers to both the large fleet carriers of the U.S. Navy and the light carriers that accompanied them; the escort carriers or "CVEs" are identified as such. "Close air support" or "CAS" refers to attacks on Japanese ground positions in support of troops, while "air support" can

refer to any of a number of forms of air employment. At the end of the text is a list of abbreviations, some of which are not in the text but which will be frequently encountered in publications on the Saipan battle.

CHAPTER TWO

LITERATURE REVIEW

There is a huge volume of literature about the war in the Central Pacific, and on Saipan in particular. The number of publications dealing with the employment of aviation assets during the campaign is limited. In general, books were used as general background and individual unit accounts and journals provided most of the necessary details.

The books served the study best by providing the broad panorama of the battle and providing a solid framework to build on with further detail from other sources. The greater share of the detail which was laid onto the broader framework of the battle was provided by careful examination of various documents, which filled in many of the gaps that remained. Both of these types of sources will be discussed below, although this chapter will not attempt to discuss every source consulted.

Books and Other Publications

There were several books which succeeded in providing both a solid background on the battle and much detail as well. One of the best of these was the volume of Samuel Eliot Morison's extensive series, the History of United States Naval Operations in World War II, which deals with New Guinea and the Marianas. The strength of Morison's work lies both in the fact that he was actually present on the USS Honolulu during the battle, and saw much of the action firsthand, and in the fact that he is very methodical and meticulous in pursuit of detail and corroboration of facts.

Saipan: The Beginning of the End by Carl W. Hoffman is a book produced by the Marine Corps Historical Center and is the most extensive single source on the battle itself, including many references to the air battle in relation to support of the ground troops. It did not pursue the other aspects of the air battle, such as the Philippine Sea battle, in any great detail except as needed to provide background on the Marines' struggle. It contains many illustrations of actions and decisions by individuals involved in critical parts of the battle.

Another smaller publication produced by the Marine Corps Historical Center, Breaching the Marianas: The Battle for Saipan by John C. Chapin, who was a veteran of the Pacific, was not extensive in its volume of information, but did contain a small number of valuable and interesting pieces of information on the views of the Marines on the ground regarding the air battle. The same may be said of The Island War: The United States Marine Corps in the Pacific by Frank O. Hough. He does not treat the air battle extensively, but reinforces the general framework of facts and provides a few excellent insights on the fight in the air. He does set up the command and control structure in the region, particularly for the Japanese, which provided the background for decisions regarding the Japanese use of air power against American aircraft and against the fleet.

In The Army Air Forces in World War II, Volume IV, The Pacific: Guadalcanal to Saipan, August 1942 to July 1944, one in a series of volumes edited by James Lea Cate and Wesley Frank Craven, authors Bernhardt L. Mortensen and James C. Olson pursue in great detail the course of the war for Army Air Forces in the Central Pacific. This volume described the roles and usefulness of both the B-24 squadrons, which contributed so

greatly to the Saipan campaign in an indirect way, and the P-47 and P-61 squadrons, which contributed more directly.

The Little Giants: U.S. Escort Carriers Against Japan by William T. Y'blood is one of the few books dedicated to the largely forgotten smaller cousin of the big fleet carriers of the Pacific War. At Saipan, the escort carriers had a definite role to play, not as much as the fast carriers in air superiority and air defense, but actually more than the big carriers in the area of close support of ground troops. This book is a comprehensive look at the role of the escort carriers (CVEs in Navy terminology) over the entire war, but does include valuable sections on the Central Pacific campaign.

In The Pacific Campaign: World War II, the U.S.-Japanese Naval War 1941-1945, Dan Van der Vat provides much information on the assets and disposition of the forces involved, and provides more information on operations earlier in 1944 which preceded and influenced the battle in June. He also gives much detail about the Battle of the Philippine Sea. He draws on information from both the American and Japanese archives, using many transcripts of post-battle interviews with participants as well as letters and diaries from the field.

Robert Sherrod, in his History of Marine Corps Aviation in World War II, gives the account of the contributions and actions of the small but important contingent of Marine artillery spotter and observer aircraft at Saipan. He also explores the development of some innovations during the battle, such as napalm.

In two books, To the Marianas: War in the Central Pacific 1944 and Carrier Wars: Naval Aviation from World War II to the Persian Gulf, Edwin P. Hoyt gives accounts of both the air Battle of the Philippine Sea and the

air support for the landings on 15 June. The depth is not great here, but some helpful facts were gleaned on the capabilities of the U.S. and Japanese fleets during and after the battle.

Documents and Official Histories

Most of the detail was filled in through the examination of various documents. These added authenticity as well as a personal touch to the bare facts of the battle. Some of the best information was found in the microfiche collections of reports from the Pacific Commands themselves during the war. The Microfilm Edition of U.S. Navy Action and Operational Reports from World War II, Pacific Theater, Part 3: Fifth Fleet and Fifth Fleet Carrier Task Forces contains a multitude of first-hand after-action reports, intelligence summaries, and reports on force composition and disposition. It was used extensively for both primary and background information, containing reports from Admiral Mitscher's Task Force 58, Admiral Spruance's Fifth Fleet, and other groups. Some of the information was accompanied with interpretive remarks, while much of it was raw numbers and facts requiring interpretation on my part.

"Saipan and Joint Operations," a U.S. Army War College individual study project by Edward T. Buckley, Jr., explores the joint nature of the invasion of Saipan in the air, on the sea, and on the island itself. He describes the joint command and control structure for the operation and evaluates its effectiveness in adapting the capabilities of the different forces involved in the mission. He discusses the various types of missions given to these air assets and gives an idea of their achievements and limitations.

An Army Air Force report, "Participation in the Marianas Operation: USAAF in the Central Pacific Area, Volume II," explores the role of the Seventh Air Force units that participated. The brief section on the Saipan operation contains details not found elsewhere.

Much valuable information on the kinds of plans that were set up and used and how different assets worked in unison was provided by a series of operation plans on the FORAGER mission. These came from several sources, including the Northern Troops and Landing Force, Commander Fifth Fleet, and Commanders of Task Forces 51 and 52. These gave the key to be able to read the significance of the events and actions detailed in the after-action reports.

These sources served to set up and round out the framework of facts and interpretations which made it possible to study the thesis topic, and through which solid answers to the research questions could be found.

CHAPTER THREE

RESEARCH DESIGN

The thesis topic selected, being a historical topic, did not lend itself to quantitative methods of research, such as surveys or questionnaires. Because these events took place over fifty years ago, interviews were not used.

The study lent itself more to a subjective analysis of the information available and a judgment as to its worth and its relevance to the thesis questions. The initial step was to delve into the historical books named above to paint the broad picture of the battle for Saipan and to find the best and most detailed sources. The best and most convenient source proved to be the U.S. Army Combined Arms Research Library (CARL) at Fort Leavenworth, as well as the Fort Leavenworth Post Library. The first phase of the research was spent ensuring that everything in these books which was useful and important had been found and researched.

Other sources were canvassed for bibliographies relating to the conduct of the air campaign in the Central Pacific. These included the U.S. Naval Institute, the Nimitz Museum in Fredericksburg, Texas, and the Naval Aviation Museum in Pensacola, Florida. These efforts met with minor success, since these institutions were not geared toward research.

The libraries at the Air Force Historical Research Center at Maxwell Air Force Base, Alabama, and the Marine Historical Center at Quantico, Virginia, were contacted with requests for information. The Air

Force Center and personnel were especially helpful, sending information on the 19th and 73rd fighter squadrons at Saipan, including unit histories and action reports. The Naval Archives and National Archives proved difficult to use without actually traveling to Washington to spend several days perusing their vast holdings. This was a weakness in the research effort which was unavoidable due to time constraints.

The various microfiche after-action reports and command reports as well as the numerous operation plans were then examined in detail to determine what was usable and how this information fit into the overall work on the subject. A search was conducted for theses, monographs, and other unpublished documents from the service colleges, the U.S. Army School of Advanced Military Studies (SAMS) program, and other sources for professional study. Also, indexes of professional and scholarly journals and the popular press were checked for relevant articles and papers.

Once the necessary sources were arranged, the historical method of research continued, a combination of gleaning facts from the sources available, determining which facets of the primary or secondary research questions they addressed, and arranging them around the question. Then came the task of taking each fact and determining how to amplify it into an answer for one of the research questions. The idea was to answer each facet of each question as thoroughly as possible, and then to relate it to its primary or secondary question as a whole. Once the secondary questions had been answered it was possible to answer the primary question with some degree of certainty and to draw some important conclusions about what happened at Saipan and what the implications were both then and now.

With a historical topic, it is impossible to reach conclusions without a certain amount of subjectivity, some of this coming from the

sources themselves, some from their sources, and still more from the author's own bias toward a subject or event. The author attempted to be as objective as possible and to rely on what, in his judgment, were relatively objective sources.

Prior to beginning the actual writing of the paper, an extensive outline was constructed to give structure and coherence to the text. Many of the subdivisions of this outline appear as subheadings in each chapter. Finally, of course, the actual writing was undertaken, with corrections and revisions made as necessary.

The thesis, in the end, combined information from various sources about the various Pacific forces, their assets, their decisions and actions, and much other general and specific information and interpretation about the Saipan campaign and related events. The paper took all this and developed it into a set of conclusions which, because of the relevance of the subject to both a sound interpretation of history and to today's circumstances, should have lasting value for military scholars, strategists, or operational planners.

Finally, the conclusions that came out of the previously mentioned processes were checked as suggested in U.S. Army Student Text 20-10: first, to ensure that the conclusions reached were logical, given the evidence; second, that the author had gotten everything out of the evidence that was relevant; and third, that no more had been claimed in the paper's conclusions than could reasonably be claimed through the available evidence. This procedure was to ensure the soundness and validity of both the method and the conclusions which were reached through it.

CHAPTER FOUR

SETTING THE STAGE

This chapter gives the context of the battle for Saipan, both in the recent events of the Pacific War in general, and in those events which would have had a particular effect on the campaign in the Marianas. It particularly emphasizes the actions of the supporting Army land-based air forces and the early carrier strikes.

Central Pacific Background Situation

By the spring of 1944 the Japanese Empire had suffered several reverses and was not the same beast that had devoured so much of the Pacific just over two years earlier, but that did not mean that it was ready to roll over and die. It was apparent to all concerned that the remaining battles would be hard-fought and costly for both sides. However, it was not just a cliché to say that it was now just a matter of time. As the forces of Imperial Japan had been slowly and relentlessly attrited since the days of their early successes, the forces that faced them had grown steadily more numerous and more powerful. The battle for Saipan would make this unmistakably clear to the Japanese High Command.

The initiative had been seized by the Americans at the Battle of Midway in 1942, and had not been relinquished. Every significant campaign since, from Guadalcanal to Bougainville to New Guinea, had been fought by the Japanese in a defensive posture. All the while they continued to lose vast numbers of men and amounts of materiel. This trend had continued in

the actions of 1944. The year began with devastating raids by Army aircraft from the Solomons on the Japanese base at Rabaul in January, and by carrier aircraft of the Fifth Fleet on the base at Truk in February. The American strategy of bypassing enemy strongpoints and establishing forward airfields elsewhere continued, as with the building of an airstrip on the Green Islands 115 miles east of Rabaul. Little-known islands such as Emirau and Manus in the Admiralties soon hosted large numbers of American aircraft.

The American submarine campaign was extremely effective in attacking supply ships during this period, and as a result a severe fuel shortage was restricting the ability of the Japanese fleet to operate far from its oil reserves in the Netherlands East Indies. This was a problem that would only get worse for the Japanese, and it affected their efforts to resupply and to fortify islands such as Saipan as well as bypassed islands.

As MacArthur continued his Southwest Pacific campaign toward Hollandia in New Guinea, the other prong of the dual advance continued its drive through the Central Pacific. After the costly assault on Tarawa in November 1943, U.S. amphibious doctrine had been revised, so that the invasions of the Marshalls and Eniwetok in February 1944 could be carried out more smoothly and with fewer casualties. As the fleet waited for the Marianas invasion force to be built up, it carried out attacks in support of MacArthur's forces to the southwest, hitting the Palaus in March. All the major preliminaries were over; the next step would be the Marianas.

The Japanese practice of keeping their frontline pilots in combat billets until killed was proving very costly, as more and more of them died off, to be replaced by men of decreasing aviation and combat experience.

The severe attrition of Japanese carrier planes and pilots in attempts to reinforce Rabaul and Truk "had been so severe since November of 1943 that the Japanese fleet carriers had at times all but ceased to function as effective fighting units."¹ Beginning with the campaign for the Solomons, and as the allies moved northward toward Rabaul, the Japanese continued to feed men and aircraft piecemeal into the theater in such a way that they could not win, but could only suffer loss after loss in detail. The battle for Saipan would worsen this situation immeasurably.

Recent U.S. efforts had served to both constrict the Japanese area of operations and to keep them guessing as to what the next objective of the Americans would be. The coordinated efforts of the two major U.S. commanders in the Pacific, MacArthur and Nimitz, continued to confuse and baffle the Japanese. The High Command was taken in by the threat of General MacArthur's forces in the Biak area, and believed that to be the next major effort. The Japanese did not believe the Americans would attempt to conquer so formidable a bastion as Saipan so soon. This contributed to a somewhat slothful attitude toward completing the island's fortifications, fortunately for the Americans. The U.S. attack was a profound shock.

The Japanese did, however, still possess a large number of aircraft with which they could, and did, reinforce their holdings in the Central Pacific. The numerous islands within flying range of Saipan and other Marianas bases meant that more than just the neutralization of Japanese airfields on Saipan, Tinian, and Guam would be necessary. Japanese air strength in the entire Central Pacific theater in June 1944 approached 1,500 aircraft, still a very formidable force, and one that would have to be dealt with.

Japanese troop strength was considerably higher than the estimates of U.S. intelligence, over 30,000 vice 15,000, although not all were combat troops, and difficulties in getting supplies to the island meant that not all were well armed. The soldiers and Marines would find, however, that they were particularly willing to fight and die for their Emperor. They saw Saipan as a place which could not be lost, or the fate of the Japanese nation would hang in the balance.

U.S. Preparations of the Theater

This section discusses preparatory attacks by Navy and Army aircraft, including early joint air actions, on Japanese airbases and on their attempts to reinforce these bases in the Central Pacific.

The formidable land-based air strength of the Japanese in the Central Pacific theater necessitated some measures on the part of U.S. forces before an invasion of the Marianas could be contemplated. Consequently a series of land and carrier-based air attacks began against various bases spread over a wide area, designed to start crippling enemy bases early. This task was carried out jointly overall, but generally with specific missions carried out by a single service. These efforts began months before the troops landed on Saipan, and had to be continuous, since the Japanese could ferry aircraft in from the other islands, even during the battle.

The important task of both destroying enemy air forces and keeping them from successfully reconstituting was divided between the now numerous carriers of the U.S. Fifth Fleet and the land-based aircraft, mostly Army Air Force, located throughout the Central, South, and Southwest Pacific. The land-based aircraft would be responsible for the Japanese bases in the

Carolines, while the Navy's carriers would take care of bases in the Marianas and in the Bonins.²

It was through its extended campaign of daily long-range bomber attacks against Japanese airfields in the Carolines and other southern areas that the Army Air Force made its major contribution to the success of the Marianas invasion.³ Later we will see that Army tactical aircraft contributed somewhat through their flights from Saipan itself, but the preponderance of Navy aircraft would reduce the importance of their role. Army Air Force bombers, however, would play a major role in ensuring that American air supremacy over Saipan was kept throughout the battle by denying the Japanese the ability to reinforce their land-based air assets from the south.

Plans for Army Air Force support of the invasion of the Marianas took into account the three routes by which Japanese forward bases could be reinforced. The first route was from the home islands to Wake via Marcus, to hit Allied supply routes. The AAF sent twelve missions, amounting to 204 B-24 heavy bomber sorties, against Wake from March through May 1944. The second route was from the home islands to the Bonins to the Marianas, and the Bonins were struck several times by carrier aircraft before and even after the Saipan battle began. The third was through the Palaus and the western Carolines, especially Yap and Woleai, to Truk, and some of these bases were also hit by Army aircraft on several occasions. The Japanese aircraft on the third route could originate in the Philippines or the Netherlands East Indies.⁴ In addition to the carrier strikes which had pummelled Truk earlier, the Seventh Air Force began hitting Truk in March from its base on Kwajalein.⁵

It was during this period that an unusual collaboration between Navy and Army air assets occurred. On 18 April five B-24s of the 392nd Squadron escorted five Navy PB4Ys (a navalized version of the B-24) on a photoreconnaissance flight over Saipan. This was the first land-based attack on Saipan, as the B-24s not only escorted the Navy aircraft but also dropped several 100 pound bombs and fought off at least eighteen enemy fighters that rose to meet them. One B-24 was forced to ditch, fortunately near a U.S. destroyer. On 25 April seven B-24s accompanied seven PB4Ys to Guam for the same type of mission.⁶ Geographic separation usually prevented this type of cooperation, but the need to get early photographic intelligence was great, the Navy photo planes were the best for the job, and the Army bombers had the range to escort them, while fighter aircraft did not.

On 7 May and 22 May the same type missions were flown over Guam and Rota respectively; then again on 29 May ten B-24s took eight PB4Ys over Saipan for a final look at the defenses before the invasion force moved into the area. One B-24 was shot down over Saipan, as once again they carried bombs and were met by fighters.⁷ Near the end of May the B-24s intensified their attacks to hold down the Japanese air power at Truk, and would continue this throughout the Saipan battle.⁸

The carrier strikes began on 22 February when aircraft of the Fifth Fleet's Task Groups 58.2 and 58.3 flew about 235 and 175 sorties respectively over the Saipan area, dropping about 95 tons of bombs and destroying about 51 airborne aircraft as well as a large but undetermined number on the ground at Saipan's airfields and seaplane base.⁹ They were also able to obtain good photographic coverage of both Saipan and Tinian,

which, in the absence of maps of the islands, would prove invaluable later.¹⁰

As the carriers moved into the area off Saipan prior to the battle, they renewed their campaign to neutralize Japanese land-based air power. On the morning of 11 June the Combat Air Patrol (CAP) from the fast carriers shot down the first enemy snoopers as they approached the force. At 1300 a deckload of 208 fighters and 8 torpedo bombers was launched, from a position 200 nautical miles east of Guam, to perform a fighter sweep over the airfields on Saipan, Tinian, and Guam. At least 36 enemy aircraft were destroyed, but it was only the beginning.¹¹ After-action reports give a total of 221 F6F fighters launched and 81 enemy aircraft shot down, but this apparently includes some duplication as well as some aircraft shot down around the force itself.¹² Admiral Mitscher's after-action report states that

. . . a total of 147 enemy aircraft were either destroyed or rendered inoperational by the fighter sweep. . . with the result that the force was not subjected to any enemy aerial attacks for several days.¹³

Even allowing for some exaggeration, the number of aircraft destroyed that day was substantial. The Japanese still had many aircraft, about 1500, in theater (that is, within range of Saipan), but most of these 147 aircraft destroyed were in the more immediate area, and had posed a more immediate threat.

Further strikes by three of the four carrier groups of Task Force 58 on 12 and 13 June on Saipan and Tinian continued the devastation of enemy airpower, as well as sinking a naval auxiliary ship at Saipan and damaging a freighter. Another raid hit the small Japanese base on the island of Pagan to the north, wiping out a sampan flotilla which could have been used to transfer soldiers between the islands during the coming

battles.¹⁴ Also on D minus 3 (12 June) carrier aircraft had been used to obtain photos of the reefs and approaches to the beaches to be used by the Underwater Demolition Teams (UDTs) to reconnoiter the beaches just prior to the assault.¹⁵ By 13 June, D-day minus two, carrier-based U.S. aircraft were busy "swarming all over the islands, looking for parked planes or targets of opportunity."¹⁶

All this was not accomplished completely without loss. On 13 June some of the TBF Avenger torpedo planes in the USS Lexington's Air Group 16 were armed with rockets. They made attacks on Aslito Airfield, the main airfield on Saipan, in shallow glides, launching rockets at ranges of 1000-2000 yards. The plane of Lieutenant Commander Robert Isely, the squadron commander, and two other aircraft were hit by anti-aircraft fire, two being shot down, including Isely's, who was killed. This convinced the carrier air officers that rocket launchers were not a good idea on the slow-moving Avengers, especially since they were useless unless launched at close range. It was also evident that the quality and quantity of Japanese anti-aircraft fire was much greater than had been experienced during previous battles.¹⁷

On D minus one and D-day the strike tempo decreased because two carrier groups had to refuel and two groups headed north to hit the Japanese airbases in the Volcano Islands. The escort carriers remaining in the area picked up the load. It was not until the evening of D-day, 15 June, that Japanese aircraft attempted to attack the ships in the landing area. Most were shot down, with no resulting hits on any ships.¹⁸ On 14 June the older battleships had arrived, the ships best suited for shore bombardment, and they carried most of the load for the effort to soften up the landing areas on D minus one. The battleships' own Seagull and

Kingfisher floatplanes as well as aircraft airborne from the escort carriers (CVEs) were used as spotter aircraft for naval gunfire.¹⁹

The Operation FORAGER Plan

This section describes the overall plan that had been formulated for the operation, the forces and commanders that were involved, and the ways they were to coordinate to unify their efforts in the campaign. It gives the relationships of American forces as well as the Japanese forces involved.

The grand overall scheme to capture the Marianas, Operation FORAGER, targeted Saipan as the first objective, with an elaborate plan to support the attack. The Central Pacific Force consisted of three major commands: the Land Based Air Forces, which have been discussed; the Fast Carrier Force, Task Force 58, under Vice Admiral Marc Mitscher; and the Fifth Amphibious Force.²⁰ The Fast Carrier Force was unlike any seen before. Task Force 58 at Saipan had seven fleet, or fast, carriers (CVs), eight light carriers (CVLs), and fourteen escort carriers (CVEs), as well as fourteen battleships and dozens of other surface warships.²¹ The fleet carriers carried about 86 aircraft, while an escort carrier of the Kaiser class, which most of these were, carried about 30 aircraft. The fast carrier groups are shown in Table 2.

Task Force 58, consisting of the bulk of the U.S. Fifth Fleet, was now the most formidable fleet in history, as the Japanese would soon discover. As has been shown, however, this was a joint operation including elements of all the services. Admiral Nimitz, as Commander in Chief, Pacific Fleet, had overall responsibility for the Central Pacific and for Operation Forager in particular. He was concerned that any problems that

might arise from the joint aspects of the operation be kept to a minimum.

He had issued a letter to his Pacific Command in January, 1944, which stated his view on the matter:

1. The intricate nature of joint operations, particularly amphibious ones, to be carried on makes it necessary that there exists a thorough understanding of the principles under which coordination of operations of the Army and Navy is to be affected. Both addressees and their appropriate subordinates will be held responsible for adherence to these fundamental precepts. . .2. I require Naval commanders of all joint forces to see to it that not only detachments (large and small) of other services whether Army or Marine Corps, but Navy as well, are left free to accomplish assigned tasks by the use of their own technique as developed by precept and experience; that is, prescribe the "what," "where," and "when" unhampered by the "how."²²

The nature of interservice relationships thus far in the war had not lent itself to trust among the members of the other services that this guidance would be closely followed. The Army Air Force believed that Naval commanders, who were normally in command in the Central Pacific, frequently went beyond these precepts in their exercise of authority. Admiral Nimitz decided that the following arrangement would help smooth the rough edges in the joint framework: Beginning on 1 May the Shore Based Air Forces command in the forward areas was established as a Joint Task Force with Major General Hale (U.S. Army) as the task force commander. The new designation was Task Force 59, and during the battles in the Marianas it would be subordinate to Task Force 57, commanded by Vice Admiral John H. Hoover.²³ A directive of the Joint Chiefs had also made the Thirteenth Air Force under General George C. Kenney in the Southwest Pacific available to support FORAGER. This arrangement was coordinated by the staffs of MacArthur and Nimitz. The Thirteenth joined the Seventh in its daily attacks on the Carolines and other targets.²⁴ The effect of all this was that the AAF in the Southwest Pacific was able to participate in a mostly Navy operation while its own commanders called the tactical shots for daily

operations. The arrangement was undoubtedly helped by the geographical separation of the services' areas of responsibility.

This was not the case, however, with the Army fighter squadrons which would soon fly out of Saipan into the same sky as many Navy aircraft, attacking many of the same targets and defending the same airspace. It was an arrangement which will bear more examination later.

The escort carriers were independent from the fast carrier force, being tied to the Northern and Southern Landing Forces. The Northern Troops and Landing Force, commanded by Lieutenant General Holland M. Smith, USMC, had several ships, including escort carriers, attached, and also carried the Second and Fourth Marine Divisions. This was the force which was to attack Saipan. The Southern Troops and Landing Force, under Major General Roy Geiger, USMC, was the assault force for Guam.²⁵ The overall Joint Expeditionary Force (Task Force 51), was under the command of Vice Admiral Richmond Kelly Turner. Task Group 51.1 was the Floating Reserve, and carried the Army's 27th Infantry Division, which would soon be needed at Saipan. Figure 2 shows the escort carriers attached to the Northern force, with the squadrons, numbers, and types of aircraft attached.

The total for all Marine and Army assault troops, including reserves, was about 130,000. The number of vessels, including warships, amphibious ships, transports, and service ships, was over 535, the largest ever excepting the Normandy invasion fleet.²⁶

Enemy Forces

Saipan was defended by the Japanese 31st Army, which was basically a reinforced corps of about 32,000, commanded by Lieutenant General Yoshitsugu Saito. He was under the authority of Admiral Chuichi Nagumo of

Pearl Harbor fame, but only nominally, since Nagumo had wisely ceded authority to him over what was to be exclusively a land battle. Saito had his own 43rd Division, one brigade, the 47th Independent, and various other smaller Army and Navy units.²⁷ In all, they totalled nearly twice as many troops as U.S. intelligence believed were on the island. This, and the tenacity of these troops, would mean a long, bitter struggle.

In summary, the forces arrayed against the Japanese at Saipan far exceeded any they had faced before, and the forces involved had come a long way in efficiency and coordination. This was particularly true of the joint air forces employed, and this would affect the battle profoundly.

CHAPTER FIVE

THE BATTLE BEGINS: THE EARLY PHASES

This chapter discusses the air operations which were conducted in the period immediately prior to the invasion in order to prepare the Marianas for the assault. It describes the attacks on related island bases as well as the air support for the landings themselves.

Preparation of the Landing Area

This section discusses the air operations conducted to ensure that the amphibious force could carry out the mission of getting troops ashore initially without serious interference from Japanese air attacks. It also discusses U.S. air attacks to soften up the island's defenses.

While the pre-invasion strikes by the fast carrier aircraft had destroyed about 80 aircraft on Saipan and Tinian and about 25 on Guam (exact numbers are impossible to establish since nearly every source gives different totals) on 11 June alone, the totals for the three day period beginning with that attack are even more astounding, with total Japanese losses around 500 aircraft.¹ This was nearly a third of the land-based air power in the entire Central Pacific region, as the Imperial General Headquarters had allocated Admiral Kakuji Kakuta's First Air Fleet about 1500 aircraft to be parceled out to all the islands, including Saipan, Tinian, Guam, Rota, Iwo Jima, Yap, Palau, and some smaller bases.²

The pre-invasion air attacks had actually begun just before the carriers arrived, as the Army Air Force bombed Palau on 3 June, then

intensified operations against the airfields at Truk, Puluwat, Satawan, Yap, Pelelice, and Woleai. Many of these little-known fields were not major bases, but did play an important part in ferrying Japanese aircraft into and through the area. Not only did these land-based AAF missions destroy significant numbers of aircraft and damage many airfields, they also as an added bonus helped to deceive the Japanese as to the true target of the Forager operation.³

With the land-based bombers keeping distant airfields out of the picture and the newly arrived carrier aircraft blasting Japanese aircraft both in the air and on the ground, the ability of the Japanese air force to respond in significant numbers was taken away. The Japanese attempts at disruption consisted of piecemeal, sporadic attacks at dusk or at night on ships in the landing area. This allowed other pre-assault operations to be conducted with less interference. On 12 June the "serious bombing began."⁴ Most of the preparation of the assault area was done by the fast carriers, while most of the post-landing close support would be handled by the escort carriers.⁵

The ferocity of both the naval gunfire and air strikes caused the Japanese in the beach areas to take such heavy casualties at some positions that they had to move some of the beach defense guns inland.⁶ This was good for the troops who would land there, of course, but meant that the remainder of the pre-landing bombardment would find fewer targets around the beaches. This made it necessary to hit targets with pinpoint accuracy in order to be effective, which unfortunately was often not the case. The newer, less experienced fast battleships were notable ineffective compared to the older battlewagons, but even these did a lot of area bombardment vice hitting point targets. These ships were dependent to a large degree

on air spotters for adjustment of fire, but many of the spotters from the carriers lacked proper training to locate important enemy ground installations. This resulted in much of the ships' fire being directed on more obvious, but often less valuable targets.⁷ Also the ships had a tendency to shift fires to new targets prematurely, without applying the spotter's last correction. More accurate gunfire and better spotting would come with practice as well as with the later arrival onshore of Marine and Army spotters.

One interesting benefit was provided to the amphibious force in an unusual way. Torpedo Squadron Ten's (VT-10) commanding officer, Commander William Martin, was shot down leading his pilots from Enterprise on a strike over the beaches on 13 June. His parachute opened just in time to save him from water impact, but he was only slightly injured. He managed to swim out to the reef under Japanese fire, and as his buddies soon occupied them with strafing and bombing runs, he had time as he awaited rescue to make mental notes of the reef area, including tidal conditions, water depth, obstacles, and channel depth, which would be valuable information for the landing forces.⁸

The escort carriers had arrived off Saipan on the 13th, and while the fast carriers carried out air strikes the CVE aircraft provided combat air patrol, antisubmarine patrol, and much of the spotting duties for the battleships.⁹ These ships were carrying FM-2s, most of them with the latest modifications, although this was still basically the old F4F Wildcat fighter, which had been superseded by the Hellcat. The FM-2 was generally well-liked by pilots, although the top speed was only 320 miles per hour.¹⁰ The CVEs also carried a substantial number of TBF or TBM Avenger torpedo bombers, which were used at Saipan mostly for dropping bombs, although they

could also strafe with their wing guns, but not with the firepower or speed of a fighter. The Southern Attack Force had three CVEs, Sangamon, Suwanee, and Chenango, which carried F6F Hellcats instead of FM-2s. Each carried 22 F6F-3s and 9 TBF/ TBMs.¹¹ As will be discussed later, the Marines were left out of the carrier picture at Saipan, but in later battles they would find a place on the escort carriers.

As the Fifth Fleet Operation Plan specified, targets beginning on D minus three included enemy aircraft and aircraft operating facilities, anti-aircraft batteries interfering with air operations, coast defense batteries, and canefields on Saipan and Northern Tinian (for purposes of burning them off to destroy enemy hideouts). On D minus two the plan specified continuing operations against airfields, and when control of the air over the Marianas was ensured, to destroy enemy defenses and cover and support minesweeping operations which were taking place around the reefs opposite the landing beaches.¹² On D minus one aircraft would provide support to Bombardment Group One, and the CVEs would furnish target combat air patrol, anti-submarine patrol, smokers (smoke-laying aircraft to cover ships and sweepers from shore batteries), package dropping, air observer aircraft, and photo missions.¹³ It is evident that the little CVEs had a full plate as the battle approached. The mission on D-day was to maintain control of the air and provide air support for landing operations as requested by the Commander Support Aircraft onboard the command ship Rocky Mount, who coordinated all close support efforts.¹⁴

The Northern Troops and Landing Force Operation Plan further specifies the makeup of the strikes. On D minus two air support would be directed by Commander Advanced Support Aircraft onboard USS Hopkins (flagship of the minesweepers) to control protection of sweeper operations

as well as to control strike operations. When ordered Task Force 58 would provide 12 VF (fighter) aircraft, 12 VSB, and 9 VTB (bombers) for sweeper protection and other missions. The primary mission was to provide airborne counterbattery fire against guns firing at the sweepers.¹⁵ One VTB or VF aircraft would serve as an air coordinator over the objective area, and three smoker aircraft would be available to screen the sweepers as necessary. On D minus one air support would be directed by the Commander Advanced Support Aircraft in USS Tennessee, as the shore bombardment phase would be in full force, and the fighter director would be in USS Twining. Aircraft provided for this day included 12 VF, 12 VSB, and 9 VTB for call strikes (strike aircraft on call to support troops) and covering missions during daylight hours, from 0600 to 1800.

On D-day the plan specified 12 VF for CAP, 1 VTB (or VF) for air coordination, 2 VTB as air observers, 1 VTB for photo, 3 VTB for artillery spotting, 6 smoker aircraft, and fighter sweep and strike aircraft as required, meaning a large but unspecified number.¹⁶ Also several aircraft dropped about 25-30 packages of propaganda leaflets on the island both before and after D-day.¹⁷ The unspecified number above was for operations during the day, but the size of the pre-landing strike was specified. From H-hour minus 90 to H minus 60, a heavy strike of 60 VF, 51 VSB, and 54 VTB would hit the beach areas. For call strikes, VF had their normal .50 caliber machine gun load, the SBDs (Dauntless dive bombers) on the fast carriers carried one 500 pound or two 250 pound general purpose (GP) bombs, the SB2C dive bombers carried on some of the carriers (the new replacement for the Dauntless) carried one 1000 pound GP or two 250 pound GPs, and the TBF/TBMs carried ten 100 pound GPs as well as high explosive rockets when available.¹⁸ Fourteen 14 VTB aircraft would also be available during

daylight hours for air delivery of supplies under special circumstances.¹⁹ After D-day call strikes of 16 VF, 12 VSB, and 9 VTB would be available from 0600 to 1800 daily.

The Landings

The use of air assets to support the troops during the actual beach landings will be explored in this section. Support for the Marines just beyond the beachhead is also discussed.

As the Japanese were not capable of significant aerial resistance at this point, there was nothing to keep these plans from being carried out successfully. The strike aircraft launched early on D-day, 15 June, and from dawn to strike time they kept station at two initial points, named NAN and EASY, until ready to go in. Flight leaders reported to Commander Support Aircraft when on station. Commander Support Aircraft gave instructions for delivering attacks either directly to flight leaders or to the Air Coordinator. When it was time for the pre-landing strike to begin (H minus 90 to H minus 60) the Air Coordinator would determine who went in and where.²⁰

In the target plan the aircraft loads and types were specified. Table 4 gives the first few lines of the target plan as an example.²¹

The two hour pre-assault naval bombardment began at 0430, and paused to allow the aircraft to come in for their strikes from 0630 to 0700. As the amphtracs crawled over the reef a total of about 72 planes from the CVEs, including 12 Avengers with rockets, came down to strafe the beaches and the area just behind and to hit these areas with bombs and rockets.²² The fighters would strafe ahead of the bombers to provide them

with maximum protection. One participant being carried toward shore in a landing craft described the scene like this:

. . .the fire (naval gunfire) was lifted and dive bombers went in for the final strike. They wheeled in formation high over our heads, peeled off, and plummeted savagely down, dropping their bombs a few hundred feet from the ground. As they began their climb the explosions threw bursts of fire, rubble, and a talcum-fine dust into the air. In a few minutes the beach was obscured. . .H minus 20 the planes stopped bombing and went into a strafing attack. They flew at treetop height and raked the beach. . .A friend of mine. . .told me later that this threw their boat into a dither, as the planes appeared to be firing on them. Empty shell casings were plopping into the water all around them. . .²³

Another participant said that the aircraft frightened the Marines "half to death as they came over the landing craft and the shell casings from their machine guns fell red-hot into the boats. Some. . .thought they were under attack from their own planes."²⁴ If the American soldiers were frightened by the spectacle, it is certain that the Japanese had cause for alarm. The beach areas were under intense, relentless strafing attacks from the time the landing craft were within 800 yards of the beach until the first one landed.²⁵ The aircraft, regardless of how it appeared to the troops in the boats, were always careful to keep their fire ahead of the craft moving into shore.

Carrier Support Groups One and Two each supplied 24 fighters and 12 VT aircraft, Group One flying against the 2nd Marine Division beaches (beaches Red and Green) and Group Two against the 4th Division beaches (Blue and Yellow). The aircraft attacked west to east, perpendicular to the beach line, in divisions of 8 fighters and 4 VT bombers each, the bombers following the fighters with five inch rockets and 100 pound bombs.²⁶ The Japanese were kept down somewhat by the barrage, but they were still active enough to pour a substantial amount of fire into the

oncoming waves of troops, as well as putting up steady, and sometimes heavy, anti-aircraft fire.

As the troops landed, the aircraft switched from their beach attacks to call strikes. On Yellow Beach, the 25th Marines of the 4th Division had landed under heavy fire and moved inland toward an objective 500 yards from the beach, a railroad embankment. They were hit from the rear by enemy mortars that had been inadvertently bypassed. A request for a call strike was passed along, and the mortars were soon put out of action by an accurate attack by CVE aircraft.²⁷ To the south on Agangan Point, where the regiment's 1st Battalion had come ashore, they were being pounded by artillery as well as a strong Japanese infantry counterattack over a ridge.²⁸ The battalion commander, Lieutenant Colonel Mustain, called for both naval gunfire and an air strike. Within five minutes a bombing and strafing attack came in and got good coverage of the area. The strike succeeded in heading off the counterattack, but the 75 millimeter guns firing at them from 800 yards inland proved more difficult to silence.²⁹ This was an example that would be repeated many times during the battle, as the tactical air support did much of what was asked but could not always deliver with the pinpoint accuracy needed for certain targets.

In another example of speedy close support on D-day, as the 25th's 2nd Battalion moved inland from Nafutan Point, two enemy mortars began hitting them from 500 yards to their rear, and "before a request for assistance could be made, friendly planes spotted the mortars, attacked, and silenced them."³⁰ This was not always the case, however, as the curtain of smoke hanging over the beach area often kept aircraft from being able to spot Japanese artillery, even when they knew where to look.

Japanese artillery on Afetna Point caused troops caught on the beaches some terrible moments, although on 14 June the cruisers Birmingham and Indianapolis had fired on these positions all morning, the battleships Tennessee and California had joined in that afternoon, and two airstrikes had been placed on them as well. The Japanese guns were still able to keep up a heavy barrage against the Marines.³¹ This illustrates the difficulty of knocking out well-emplaced positions, and shows that even large naval guns with the ability to place their fires with great precision may not be completely successful.

The Japanese Respond

On the night of 15 June Japanese aircraft made their presence felt, as just before sunset radar from ships of Task Group 52.14 picked up a group of enemy aircraft at 71 miles to the southeast. A division of four fighters from the White Plains which was flying CAP at 10,000 feet was vectored to intercept the formation. The fighters ran into five torpedo-bearing planes, either Kates or Jills, at 6,000 feet. The VC-4 pilots shot down four out of the five, although the fifth was able to launch a torpedo at one of the escort carriers, the Fanshaw Bay, which fortunately missed. The offending aircraft was then shot down by a Wildcat the ship had just launched.³²

On 16 June the fast carriers launched more strikes against Guam and Tinian to keep them from being used in the upcoming naval battle, which by now was expected in a matter of days. A number of Japanese aircraft were destroyed in the air and on the ground, but several U.S. aircraft were also lost to heavy anti-aircraft fire, and the airfields were not completely neutralized.³³ Also at this point, with the expected approach of the

Japanese fleet, the decision was made to give responsibility for close air support exclusively to the escort carriers until further notice. The other carriers flew more extensive CAP and interdiction missions from this point on.

On 17 June a raid of 20-30 Japanese aircraft which had flown from Yap to attempt to hit the invasion force around Saipan ran across the CVEs. They had been picked up by the force's radar at 110 miles, and more fighters were launched to join those already flying CAP; it was again late in the day, about 1800. In the fading light about 44 Wildcats met them, and a few of the enemy were shot down by both fighters and anti-aircraft fire, though not substantial numbers. The enemy, however, succeeded in doing little damage.³⁴ Six aircraft were able to attack the Southern Landing Force, which was standing by to the east of Saipan, and hit an LCI, killing fifteen. Several other aircraft attacked the vessels unloading at Charan Kanoa, causing only minor damage, then hit the nearby CVEs, this time damaging the Fanshaw Bay badly enough that she had to go to Eniwetok for repairs. Most of the Wildcats missed the enemy in these last groups due to darkness, while two unlucky pilots were mistaken for the enemy and both fired at by friendly ships and jumped by friendly fighters. One of these crashed while attempting to land and destroyed six aircraft.³⁵

On 18 June 30-50 more Japanese planes attacked Task Group 52.11, and VC-10 FM-2s succeeded in shooting down ten and damaging six, while planes from VC-5 destroyed nine and damaged two.³⁶ In the early hours of 19 June a group of 33 F6Fs downed 30 Zekes and Hamps and 5 bombers in combat over or near Guam, some of the enemy aircraft having just flown in from other bases to the southwest, and others having just taken off from Orote Field. This was the day of the great fleet action, and as the first

enemy wave was detected far to the west, a "Hey Rube" call alerted the fighters over Guam to return to the force to meet them. They would join many other fighters either already flying CAP over the force or just being launched. The defense of the force off the landing beaches would be left to the remaining aircraft from the escort carriers as the seven fleet and eight light carriers of Task Force 58, with their 956 aircraft, headed to the west to meet the enemy fleet.³⁷ While the big carriers were away, the fire support ships and CVEs continued to provide constant bombardment and air strikes to keep the land battle moving ahead.

The Air Battle of the Philippine Sea

It is the intent of this study to focus more on the air campaign for Saipan itself than on the Battle of the Philippine Sea, particularly since this great fleet action in itself would make a very large study project. It is, however, impossible to determine the effects of air power on the battle for Saipan without taking into account the great fight that kept the Japanese fleet from being able to disrupt it. A relatively broad examination of the battle that would soon become known as the "Marianas Turkey Shoot" is therefore necessary.

In the period between the attack on Pearl Harbor in December 1941 and the U.S. invasion of the Marianas in June, 1944, the naval air arms of both the U.S. Navy and the Japanese Navy had undergone a great transformation. The U.S. Navy had begun the war with only three aircraft carriers in the entire Pacific theater, with inferior aircraft and inexperienced crews, while the Japanese had an advantage not only in numbers of carriers and aircraft but also in quality of aircraft and the level of crew training. By June, 1944, two and a half years of war had

dramatically changed the situation, for the better on the American side, and for the worse on the Japanese. This would soon allow American carrier air power to deal a blow which, with the exception of the kamikaze attacks, would end the existence of Japanese naval aviation as an effective fighting force. It would also dash the hopes that the Japanese soldiers on Saipan entertained of rescue by their fleet.

The Japanese decline had begun at Midway in 1942 with the loss of four fleet carriers, their aircraft, and many valuable carrier aviators. It was a trend that was to continue steadily throughout the war. It was the loss of these aviators which would eventually cripple the Japanese air arm's ability to meet the American pilots and expect to survive, much less to destroy the American fleet. As much as the loss of carriers and airplanes hurt them, it was the seasoned pilot who could not really be replaced. By mid-1944, the average carrier pilot in the Japanese Third Carrier Division had about three months training, compared to American pilots who had between eighteen months and two years of training before seeing combat.³⁸ Another lesser but still serious problem was the continuing losses of experienced maintenance and other aviation-related personnel.

On the other side, the gearing up of the vast American industrial complex made it possible for America to eventually send vast numbers of ships and aircraft to sea. At the same time, the quality of American aircraft improved greatly. The Brewster Buffaloes of the early months had been replaced by highly capable aircraft such as the F6F Hellcat in the fighter role, with the SBD Dauntless dive bomber and TBF Avenger torpedo bomber having come along to fill their respective roles with great success. Finally, the vast reserves of American manpower were tapped to provide

large numbers of pilots, increasingly more combat experienced, to fly those aircraft. It is significant that America was able to mount the two greatest amphibious operations in history, at Normandy and Saipan, almost simultaneously and on opposite sides of the world. It was this kind of immense force, coupled with great Japanese losses, which would set the stage for the stunning American victories in the skies over the Philippine Sea.

As has been discussed earlier, the strategic importance of the Marianas to the Japanese as a primary Central Pacific base, as well as to prevent their strategic use by the U.S. against the Japanese home islands, made a determined effort by the Japanese fleet both essential and inevitable. The first response had been, as we have seen, to send several hundred new aircraft into the area in the first few months of 1944, and we have also seen the toll that the American land and carrier-based aircraft had already taken on these assets, and the pressure that they continued to exert on the Japanese land bases in the theater. They were therefore incapable of decisive action; it would be left to the great carrier force of the Combined Fleet to defeat the Americans.

Soon after the landings began on 15 June, Admiral Spruance, in command of the U.S. Fifth Fleet, received word from American picket submarines that two large formations of Japanese warships were transiting north and south of Samar in the Philippines.³⁹ Task Force 58's carrier task groups rendezvoused about 200 miles west of Saipan on the 18th to await the approach of the enemy. Both sides were poised for a great battle, the Japanese realizing that a defeat here could seal the fate of the Empire, while a great victory could set back the American advance by a year or two. Publicly the high command claimed that they would soon seal

the Americans' doom and begin the march to victory; secretly they simply hoped that a victory would discourage the enemy enough to enable the Empire to achieve some form of honorable peace agreement.

One of the weaknesses of the U.S. fleet, in this battle as at the Coral Sea and Midway, was search.⁴⁰ The Japanese search aircraft had a longer range than the American models and were able to locate the U.S. fleet first, although the Americans did have location information on the Japanese fleet from their submarines which was only a few hours old. Admiral Ozawa, the Japanese commander, hoped to trap the U.S. fleet, and particularly the carriers, between his own carrier aircraft and the large force of land-based aircraft whose help he was counting on. He was unaware how greatly the pre-invasion fighter sweeps by Admiral Mitscher's Hellcats had decimated the land-based force. By 19 June the totals of combat and operational losses included over 500 destroyed aircraft and the loss of most of their pilots, over a third of the Japanese land-based fleet. Some of this was the result of sorties to the north to Iwo and Chichi Jima by two of the American carrier task groups on 16 and 17 June. American confidence was so great that Admiral Spruance had allowed these groups to head north for these attacks while two other carrier task groups were refueling, leaving only the escort carriers for CAP and strike missions over Saipan during this two-day period. At the completion of these raids, the two task groups swung south again to ensure that they were in position to meet the enemy fleet by the morning of 18 June.⁴¹

On 18 June, both fleets still searched fruitlessly for each other, each desiring to attack first. Spruance's caution and his resolve to protect the invasion force even if it meant losing an opportunity to destroy the Japanese fleet caused him to sail west during daylight and then

to reverse course to move back toward the Marianas at night, to stay relatively close to the islands and the amphibious forces. The Japanese carriers were in three divisions of three carriers each, with their escorts, while the Americans had three groups of four and one of three, totalling fifteen carriers to the nine of the Japanese. Even this does not give a true picture of strength, however, because the greater capacity of the U.S. carriers gave them about a two-to-one advantage in aircraft, not counting the Japanese land-based air assets. The Americans also had a large group of battleships and other escorts to provide a formidable anti-aircraft screen between the carriers and any enemy aircraft coming in from the west.⁴² Therefore the odds against the Japanese were not at all favorable, when the U.S. advantage in numbers of fighters involved was factored in with the overwhelming antiaircraft fire the ships could put up against any enemy "leakers," who also had a high probability of being picked up on radar.

Early on 19 June the CAP from the Belleau Wood, one of the escort carriers, observed greatly increased enemy air activity around Guam, and Admiral Mitscher realized from this as well as from the information on the enemy fleet that ". . . we were probably due for a working over by both land-based and carrier-based planes. . ."⁴³ Wanting to destroy as many land-based aircraft as possible before the enemy carrier aircraft came in, he dispatched additional fighters to Guam. The melee discussed earlier ensued over Guam itself, until at 0959 the first wave of carrier aircraft was detected 130 miles to the west of the U.S. formations. The fighters from the fast carriers were recalled for the fleet battle, leaving fighters from the CVEs and bombers from all carriers, who had been cleared out to make

room for unencumbered fighter operations, to continue the day-long effort to keep Mariana-based aircraft out of the picture.

Japanese scout planes having discovered the Americans first, the first Japanese wave of 64 planes was launched early on 19 June, and reached the escorts shortly after 1000. This was the beginning of a disastrous run for their aircraft, with 42 planes shot down and only one bomb hit on the battleship South Dakota to show for it. Not a single aircraft got through to the American flattops, which were helped considerably by the unusual decision of the Japanese strike leader to have his formation orbit while he briefed his pilots on the attack--over a clear frequency. Not only did this give Task Force 58 additional time to clear the fighters off its flight decks and get them an altitude advantage, it also allowed a Japanese-speaking officer on the Lexington to listen in on the enemy frequency and to pass along an exact translation of the Japanese plan of attack to the Task Force Fighter Director Officer.⁴⁴

The second wave of 128 aircraft, which soon launched and attempted to join the battle, was greeted as it left its carriers by a submarine attack on the large carrier Taiho. A Japanese pilot spotted one torpedo's track and sacrificed himself by diving onto it, but as the submarine had fired a spread of six torpedoes the ship was still hit, and later sank after leaking gasoline vapors caused her to explode.⁴⁵ Another submarine sank the Shokaku that morning as well. The aircraft lost in the attempt to destroy the torpedo was only the first of ninety-seven aircraft to be lost from this wave. The formation was picked up almost as far out as the first wave, at 115 miles, and once again this kind of warning enabled the Americans to have a large force waiting, over 160 fighters in several divisions. Once again they had the altitude advantage, and once again the

results were terrible for the Japanese pilots. The disaster was compounded by the fact that no hits, not even one, were scored on any American ships. Only a few planes were even able to make unsuccessful attacks on the outer ring of escort ships.

The third wave was comprised of 47 aircraft, which attempted to come in from the north. It was the least ravaged of the Japanese attacks, losing only seven aircraft, but it won no advantage commensurate with this, for it never got as far as the American carriers. A major reason, perhaps fortunately for the Japanese aircrews, was that a navigation error by one of their scout planes in reporting the position of Task Force 58 resulted in about 50 aircraft from this wave, mostly Admiral Ozawa's 2nd Carrier Division, being vectored to the wrong position.⁴⁶ They searched in vain until lack of fuel forced them to return to their ships.

A fourth wave of 82 aircraft came in about an hour after the previous wave, as had the others, arriving just after 1400 to be greeted by a waiting swarm of Hellcats. Only 28 of the 82 survived, and 19 of those were too severely damaged to be operational again. Once again these pilots had been given a false position, but instead of escaping, most were either caught by Hellcats vectored to meet them or shot down as they tried to land on Guam.⁴⁷

To sum up the attack, in only a few hours "Admiral Ozawa had thrown 328 of his 430 aircraft against Mitscher's carriers. 220 of them were shot down or otherwise lost, plus an additional 23 search aircraft. The total cost to the Americans was seven F6Fs lost in air combat. . ."⁴⁸ As the day wore on, nine more Hellcats were lost in the continuing combat over Guam, as well as another six from operational factors, with seven more bombers lost attacking ground positions on Guam. As a result, the sporadic

fighting over Guam actually cost the Americans more aircraft than did all four waves of enemy carrier-based planes combined. The ill-fated attempt by Admiral Mitscher the next day to launch his aircraft for a late strike and recover them at night at maximum range would mean a far higher toll of aircraft lost to ditching than the Japanese guns had been able to exact. If not for his performance during the rest of the battle, he would surely have come under serious criticism for this.

It was not until the 20th that American search planes located the Japanese fleet, and this occurred so late in the day that Admiral Mitscher knew he would lose men and aircraft to the night and fuel starvation, but he chose to strike regardless. Out of 216 attacking planes, he lost only 20 to enemy action, but another 80 to ditching or crashing in the dark sea, although all but 16 pilots and 22 aircrewman eventually made it back.⁴⁹ The toll of Japanese ships was two tankers (eventually scuttled), the carrier Hiyo (sunk), carriers Zuikaku and Chiyoda (damaged), and battleship Haruna (damaged).⁵⁰

It is necessary to elaborate on some of the factors already mentioned which contributed to the devastating losses on the Japanese side, and to the corresponding absence of substantial losses on the American side. Although technically the Japanese had more aircraft in the area, with over 1500 to the Americans 950 carrier aircraft, the recent and continuing efforts to destroy Japanese land-based power and keep what was left of it impotent had been, as we have seen, spectacularly successful. This reduced the aircraft involved in the Philippine Sea battle to, for practical purposes, the carrier aircraft only, in which the United States had a two-to-one advantage.

To multiply this further, the American advantage in quality was tremendous. As mentioned earlier, the Japanese pilots were much less experienced than their counterparts. The Japanese practice of keeping experienced carrier aviators in operational units indefinitely had two distinct disadvantages. First was that the new pilots being trained in Japan did not have the benefit of combat-experienced instructors. The level of experience and knowledge of the instructors themselves was questionable. Secondly, keeping experienced pilots in operational billets meant eventually losing them. During the first two years of the war, nearly every Japanese pilot lost--and they were losing them in ever greater numbers--was experienced. By 1944, there were no longer enough to fill the front-line cockpits, and the percentage of veterans had dropped precipitously, and was continuing to do so. It was unfortunate for them that they had not adopted the American practice of rotating experienced pilots back home as instructors, both to conserve them and to improve the quality of training.

The quality of aircraft was also dramatically different on the American side. The F6F Hellcat was a far cry from the early Wildcats and Buffaloes they had been forced to fight with at the beginning of the war. The Hellcat was maneuverable, heavily armored, and had great firepower, along with self-sealing fuel tanks. The Japanese A6M5 Zero Type 52 was still a maneuverable aircraft, and had greater range than the F6F, but it was lightly armored and could not stand up under the guns of the Americans. A few well-aimed rounds could, and did, bring down the Zero and other aircraft with relative ease.

The American use of radar had both improved and increased during the war, and resulted in greater warning times and the ability to launch

and direct greater numbers of aircraft to meet the threat. The fact that the 653rd Japanese Air Group, comprising the first wave on 19 June, was picked up by the USS Alabama's air search radar at 130 miles was a remarkable feat for the time.⁵¹ The decision by the Japanese airborne commander to orbit and brief over the radio certainly was a factor as well.

Task Force 58 had nearly 60 fighters in the air conducting CAP, plus about 25 over Guam, when the enemy was detected. Soon, another 140 F6Fs were launched from the decks of the fifteen carriers, making a total of over 200 up at one time. So the U.S. aircraft gained an advantage in numbers over this and each subsequent wave, as the fighters were refueled, rearmed, and relaunched after each flight. The early warning gave the Americans the ability to pick their attack altitudes and directions as well. The first group of F6Fs from the Essex had a 6,000 foot altitude advantage, and within seconds they had shot down four Zekes.⁵² As other flights joined the fight in rapid succession, the Japanese formations began to break up and the Americans hunted and destroyed the enemy aircraft piecemeal. The handful of survivors made attempts at attacking the U.S. battleships, the only success being the hit on the South Dakota.

There was one further reason for the astounding American success in the skies over the Philippine Sea. As Thomas G. Miller states it:

The complicated techniques of fighter direction using radar control developed during the Battle of Britain had been adopted in toto by the U.S. Navy and the Fast Carrier Task Force .had practiced them to perfection in combat. . .⁵³

This was all the more impressive considering the great numbers of fighters involved, and the relatively small number of control frequencies which could be used to control them. The air picture that resulted from such a high degree of control was similar to that of the Gulf War, where large

numbers of Allied aircraft were strictly controlled and directed to their targets, while enemy aircraft were forced to fly "blind."

While all this was going on, many of the bombers which had been flown from American decks to clear them for fighter operations proceeded to make further attacks on the Japanese air bases at Guam and Rota, in order to deter the launching of land-based aircraft against the carriers. Not only were they successful in preventing Japanese attacks, they also destroyed even more aircraft on the ground.⁵⁴ After the battle, Rear Admiral Joseph J. "Jocko" Clark headed north to hit Iwo Jima once again, U.S. forces shooting down 66 Japanese planes in the process. Also MacArthur's aircraft hit Yap in the Palaus and Navy land-based B-24s attacked Truk several times during this week to compound the distress of the enemy.⁵⁵

All these factors combined to create for the U.S. the greatest single-day victory and subsequent two-day victory in the history of air combat, with the corresponding disaster for Japan. By the end of the two-day battle, Admiral Ozawa had about 35 out of his original 430 aircraft remaining. The battle was one of strategic significance, for after this the Japanese naval air arm ceased to exist as a credible threat to the U.S. Navy. To take it a step further, the air Battle of the Philippine Sea "decided the Marianas campaign by giving the United States Navy command of the surrounding waters and air. Thus, the Japanese land forces in Saipan were doomed, no matter how bravely and doggedly they fought. And victory in the Marianas made an American victory over Japan inevitable."⁵⁶ So the argument can plausibly be made that this one battle, by assuring that the Japanese could not either destroy the American invasion forces or reinforce their own forces, made eventual U.S. victory on Saipan a

certainty, and that this victory, by clearing the way for massive air attacks on the Japanese home islands, ensured eventual victory in the war. The flaw in this argument is that it will never be known whether strategic bombing alone would have brought Japan to her knees.

To summarize, much of the work in claiming the skies over the Marianas had been done before the troops landed. Both the overwhelming air combat victory won by the Americans during the Battle of the Philippine Sea and the early successes by attacking Army and Navy aircraft throughout the Central Pacific were key. By June 15, the Japanese capacity to do anything more than harass and slow down the Americans was gone.

CHAPTER SIX

AIR OPERATIONS DURING THE BATTLE

This chapter explores the various roles that air power played during the battle against the several distinct threats the Americans faced. The limited scope of this paper does not allow an extremely detailed look at these areas, but this chapter should serve to round out the reader's perspective on the versatility of air power at Saipan. Some of these functions were not as immediately visible as others, but still played a vital part in the battle's outcome.

Forms of Air Support Employed

During air operations from 6 June to 7 August 1944, during the battle for Saipan, Tinian, and Guam, the carriers of Task Force 58 alone flew 27,250 sorties and dropped 6,102 tons of bombs, 62 torpedoes, and numerous rockets.¹ They destroyed, during the same period, an estimated 848 Japanese aircraft, which, even allowing for some exaggeration and duplication, is an astounding number.² This does not include operations by the escort carriers or by Army Air Force aircraft. These accomplishments are both the producer and product of overwhelming air power. The overwhelming air superiority that the American forces at Saipan enjoyed was continued throughout the battle for Saipan as well as the subsequent battles, and this made it possible for air power to contribute to the final victory in several different ways. It is not an exaggeration to say that much of the battle, at least in the air, was won before any troops set foot

on the landing beaches. The destruction of most of the Japanese air assets, land-based and sea-based, in the Central and Southwest Pacific theaters in the months prior to the battle for Saipan, as well as in its first critical days, meant that the troops had one less dimension of war to concern themselves with. They knew, as could also be said of the Normandy invasion, that if they saw an airplane overhead it was probably theirs.

In contrast, the situation of General Saito's troops was just the opposite. The great rescue they had been expecting from the fleet had not occurred and would not occur, although, not really knowing the extent of their Navy's defeat, they would continue to hope until death overtook them. For them, if an aircraft was seen or heard overhead, it was almost certain to be the enemy's. The U.S. aircraft could fly over the island almost at will, although the anti-aircraft fire could sometimes be heavy, strafing and bombing specific targets called in by the soldiers and marines, or looking for targets of opportunity. They could keep the Americans apprised of the disposition of the front lines, and help spot and correct fire for the dreaded artillery and naval guns.

There were some things the American aircraft could not do, however. It is obvious that if air power and its total supremacy in an area were all that is needed to win a campaign, then it would not be necessary to send in troops at all. It is, of course, necessary because aircraft cannot take and hold terrain. Only troops have this capacity. Second, although the Japanese were taken somewhat by surprise since they had not expected the invasion for several more months, they had not been idle. Many of the island's defenses were not completed and they had not received reinforcements after April, with supplies and even arms in short supply due to the American air and submarine campaigns.³

They did, however, have the island itself on their side, and they made good use of the time they had to use the caves and many other natural features to prepare strong defenses. The American airmen would find, as would the proponents of artillery and naval gunfire, that there were many positions that would simply have to be taken by troops on the ground with machine guns, grenades, and satchel charges. In addition, the closeness of the troops to the enemy and the close confines of the island itself, although it was larger than many others assaulted in the Pacific, made fratricide even more of a concern than usual when conducting air attacks.

There were actually several forms of air assets and air support which were used at Saipan. As a brief synopsis, they included: combat air patrol/anti-air combat, fleet action, reconnaissance, airfield interdiction, close air support, artillery spotting, antisubmarine warfare, and some other miscellaneous functions, such as transport and medical evacuation. The scope of this study is such that each function cannot be examined in great detail. Some did not play as large a role as others, but each will be examined sufficiently to determine its implications for the battle. A more detailed look at these uses of air support is contained in the following sections.

Combat Air Patrol/Anti-air Combat

The combat air patrol, or CAP, function had seen its greatest successes in the first days of the battle, especially during the Battle of the Philippine Sea, but it would continue to play a role, though less pronounced, as long as the fleet steamed off the Marianas and as long as the Japanese could still ferry aircraft into the area. Since the Saipan invasion began, they had made desperate efforts to reinforce their air

strength on islands within reach, whose air forces had already been decimated by the carrier strikes of 11-18 June, but had very little success.⁴ None of the aircraft moved southwest to help defend Biak from what they had expected to be the major thrust ever got back to the Marianas in time to help. Rear Admiral Clark's strikes on Iwo Jima destroyed many possible reinforcements, and bad weather held back others. No effort was made to take aircraft from Yap or the Palaus for Saipan's benefit, since until the last minute they expected a diversion of some of the carriers to strike those islands. They did move up the only operational planes at Truk, 19 of them, by the time of the battle on 19 June.⁵ After this, only a handful were occasionally able to sneak through the CAP around the islands.

As a result of all this, the Japanese were no longer capable of mounting heavy raids on the amphibious force off the beaches or on the fleet, but they could still send small raids in to harass and attempt to inflict as much damage as possible. The attempts were usually at night or at dusk, and so the fleet carriers were often limited in their ability to respond, as most of their pilots were not trained for carrier operations at night. There were 26 small raids over a period of about 14 nights during the battle. About 14 of these aircraft were shot down by the ships' anti-aircraft fire, assisted somewhat by radar.⁶ The other means of dealing with night attacks were the night fighters, with pilots trained for night carrier operations. Admiral Mitscher's report on the battle characterizes their performance as "most gratifying," as they were able to make ten successful interceptions which resulted in kills of enemy aircraft.⁷ The VF(N) unit from the Enterprise succeeded in downing three Japanese aircraft in one night. Overall, however, the night fighters did not do as well as

they might have hoped, as the above numbers will indicate. Ten interceptions out of 26 night raids is well under fifty percent, although it is probable that some raids were not detected until it was too late for intercepts.

The Navy aircraft were also assisted after the first few days of the battle by a number of Army night fighters, which had flown ashore after the battle began. The P-47s and P-61s shared some of the CAP burden with the Navy fighters, although their smaller relative numbers limited their participation somewhat since they performed close air support duties as well. Also, most of the productive CAP missions (ones where enemy aircraft were shot down) were over after the conclusion of the Philippine Sea air battles, which was prior to the arrival of the Army aircraft. The P-61 night fighters did have some success against the subsequent Japanese dusk and night raids. Of about 150 Japanese aircraft which conducted these raids during the battle, the P-61s would shoot down eight, with anti-aircraft fire downing another seven.⁸

The control procedures were a key factor in the ability of CAP aircraft to make successful intercepts. These enabled the fighters to know where the enemy was and to intercept from the most advantageous direction (from the sun, for instance) and with an altitude advantage. An excellent system of deploying fighter aircraft had been worked out. Lieutenant Joseph R. Eggert, task force fighter-director onboard Lexington, was responsible for seeing that enough F6F's were vectored out to intercept every Japanese raid while keeping a sufficient reserve behind to handle subsequent raids.⁹ He accomplished this by voice-radio coordination with the other four task group fighter-directors, sometimes shifting fighters between groups. Each fighter-director had primary control of his own

group, but some aircraft could be allotted to the fighter-directors of individual ships to control them for specific intercepts. At the same time new VHF radio gear was replacing the old ARC-5 in the Fifth Fleet, so only two fighter-director channels were common to all groups, and the groups all had different equipment.

The Commander Task Force 58 Action Report describes the communications situation as "most trying," and states that the Task Force was "extremely fortunate in being able to get the necessary communications through to the fighters. . .;" but the key is that the procedures and excellent training that had been part of the Task Force's routine not only made the interceptions possible but allowed them to be made at ranges of 50-60 miles from the carriers.¹⁰ So the crowded channels still worked, fighter direction generally was effective throughout the battle, getting the right numbers of fighters to the right places at the right altitudes.

The Army Air Force P-47s also flew regular CAP missions, and will be discussed in more detail in a section dedicated to them.

Fleet Action

Fleet action has been discussed in some detail in the section dealing with the Battle of the Philippine Sea. It is therefore not necessary to recapitulate at great length, but to say that the fleet action associated with the second day of the Battle of the Philippine Sea, 20 June, sealed the victory which had already been won on the first day. The capacity of the Japanese fleet to pose a serious threat had been seriously crippled by the loss of most of the carrier aircraft. The U.S. fleet from that point on could have stayed near Saipan, kept a reasonable schedule of search aircraft in the air, and attacked any Japanese aircraft or ships

that approached. The few aircraft the Japanese had left, from the indications of the air combat on 19 June, would have had little chance of even breaking through to the fleet, and none of seriously disrupting the invasion. Any Japanese ships approaching would not have had the benefit of significant air cover, and in an area swarming with upwards of a thousand American aircraft, would have presented themselves as nothing but targets.

Nevertheless, Admiral Mitscher, who along with his pilots was eager to deal the enemy fleet a decisive blow, jumped at the chance to attack them once they were finally discovered by search aircraft. He even launched them late in the day at maximum range in order to capitalize on the opportunity. Though the loss of 80 airplanes was not insignificant, the American fleet could afford to lose them, especially since most of the aircrews were safely returned. The loss of two oilers, another carrier, and damage to several other ships was more than the Japanese could afford. But what they could really not afford was the loss of the remaining two-thirds of their aircraft. Ozawa's own log ended 20 June with this entry: "Surviving carrier air power: 35 aircraft operational."¹¹ What he had not been able to accomplish with 430 aircraft, he certainly could not accomplish with 35. So the fleet action of this day meant once and for all that the American fleet, and the soldiers on Saipan, no longer had anything to fear from the once-mighty Combined Fleet. An official CINCPAC analysis from June 1944 stated, "Carriers were no longer an expensive weapon for dealing single sharp blows, but had become efficient machines for keeping aircraft constantly in motion against enemy targets from dawn to dusk."¹² The carriers themselves, because they were now so powerful and so vital, were constantly in motion. During Operation FORAGER many of them were at

sea for four straight months, and after January 1944 the fast carriers did not return to their homeport at Pearl Harbor until the war was over.¹³

Reconnaissance

The early joint missions by Army B-24s and Navy PB4Y photo-reconnaissance planes were important in giving the planners an early look at Saipan's features and the state of the more conspicuous features, such as Japanese installations. There were many limitations to photographs hurriedly taken at altitude while under attack by enemy fighters, however. There were also limitations to how much information about certain features could be revealed under even the most favorable conditions. For instance, one of the most important considerations for the Marines as they landed on D-day was the condition of the reef area, including water depths, obstacles, and channels, since this would impact on their ability to get ashore quickly. The incident has been recounted of the pilot who, after being shot down, made mental notes of these conditions and passed them along after rescue. The keen interest which was taken in his newfound knowledge shows the scarcity of intelligence possessed by the planners in such areas.

As the invasion neared and the U.S. fleet came within range of the Marianas, more frequent reconnaissance flights were flown, with many more photographs taken. The problem was in the nature of the island and the form of the Japanese defense. If ground troops would soon have great difficulty locating many of the Japanese positions only a few yards away, especially those in caves or other underground sites, it is understandable that aerial photographs were limited in the information they could give. The reconnaissance aircraft did their job the best it could be done under

the circumstances, under the limitations inherent in the aerial vantage point. Probably a more important form of reconnaissance was actually performed during the battle by observation aircraft, which will be discussed in a later section along with spotter aircraft.

Antisubmarine Warfare

The role of antisubmarine warfare is not generally paid much attention when examining the Saipan battle, and much of this is attributable to the successful campaign which the U.S. fleet had waged for many months against the Japanese fleet submarines, as well as the role to which many of them had been relegated by the hard facts of the war, that of supply ship for isolated Japanese garrisons. But there were Japanese submarines near the Marianas, and air power did play a part in their total lack of success.

The Japanese had deployed a line of submarines east of the Marianas in late May and early June, but several of them had been sunk by patrolling groups of U.S. destroyers and destroyer escorts before the invasion force even reached the area. I-10, I-185, and I-5 deployed in a submarine picket line east of Saipan during the period of 14-16 June, and the assignment would be fatal to all three.¹⁴ I-185 and I-10 were sunk by surface ships, but it has not been determined whether I-5 was sunk by a ship or an aircraft. Regardless, it was never seen again.

On 17 June, RO-117, which had recently been sent from Japan to join the Saipan screen, was detected and sunk by a naval B-24 of squadron VB-109 flying from Eniwetok. On 19 June an Avenger from VT-60 on the escort carrier Suwanee was conducting an antisubmarine patrol near the Southern Force when it sighted a surfaced submarine; it was the I-184, returning

from Jaluit, which was unable to submerge in time to avoid being sunk by the aircraft's depth bombs.¹⁵ During the period of late May through early June, no less than 17 of the 25 Japanese submarines in the area were sunk by ships and aircraft.¹⁶ Some of these were attacked by both, and it was impossible to determine exactly how many were destroyed by each platform. Others were not confirmed kills at the time, but the submarines were never heard from again.

As the Japanese on Saipan were forced more toward the north end of the island during the course of the battle, and the room for close air support became more confined, more of the aircraft were diverted to ASW patrol. It was through regular and thorough patrols as much as by sinking them that these aircraft kept the Japanese submarine force ineffective, for they were being attrited at such an alarming rate that the survivors were reluctant to get near the American force, and became totally ineffective.

To further increase the airborne ASW assets around Saipan, soon after D-day the outer anchorage was set up as a seaplane base for use by seaplane tenders and patrol planes. Six PBM Mariner patrol seaplanes from VP-16 at Eniwetok arrived on 17 June and began work immediately. Eventually this number was increased to five squadrons.¹⁷ Their initial use was for night radar search while the Japanese fleet was in the area, and after the sea battle ended, for night antisubmarine radar patrol and day antisubmarine search. Near the end of the battle they took over the ASW function completely from the CVEs.¹⁸

Airfield Interdiction

This function has been already discussed in describing the actions of the fast carriers and the fleet actions of Task Force 58. It included

the strikes back on 22 February and the strikes beginning on 11 June and continuing up until D-Day. One particular point bears stressing, however. It was during this period, as the U.S. fleet finally had the numbers of aircraft, particularly fighters, that it had earlier lacked, that Task Force 58 raised to an art a new tactical weapon, the fighter sweep. The fighter sweep had been used earlier in the year on occasion to hit a base such as Truk over a period of one or two days to cripple enemy land-based air assets there, and had been used already here at Saipan and at Iwo Jima during the Saipan battle. What was different now was that the fighters were not just hitting and running, leaving some damaged aircraft and facilities in their wake; they were hitting, and then hitting again, with fighter sweep after fighter sweep. The larger raids were replaced by smaller, more continuous raids which not only destroyed aircraft but also kept the ones remaining from being able to take off except on rare occasions, many of which resulted in another destroyed airplane soon after it left the ground. Another key point was that the U.S. aircraft would not conduct piecemeal attacks on one airfield and then another, in sequence; they now had enough aircraft to put together several simultaneous interdiction efforts. The Japanese were not afforded the time to catch their breath, until they had none left.

The fleet was even able to spare the assets to send north to hit Iwo Jima while everything else was still going on at Saipan, and just after fighting a major fleet air engagement. Bad weather up north had caused a backlog of 122 Japanese planes at Iwo and Chichi Jima during the Philippine Sea battle.¹⁹ Admiral "Jocko" Clark, who was not satisfied with the damage he had already done, made a proposal to Admiral Mitscher that he take his group back there, which Mitscher approved. So Hornet, Yorktown,

Bataan, and Belleau Wood headed north and launched a fighter sweep of 51 F6Fs armed with 500 pound bombs in addition to their normal .50 caliber loads. They were spotted on the way in by a Japanese patrol plane and subsequently met by enemy aircraft, 29 of which they shot down, against the loss of six F6Fs. The Japanese sent several raids against the carriers while this was going on. The first raid, 20 aircraft, was completely annihilated. A second raid lost 17 out of 41 aircraft, and several more were lost in smaller groups. With the loss of 66 more airborne aircraft and several more in the three strikes Clark's planes made on the airfields on the two islands, the Japanese air group "was so weakened by combat and operational losses that on the 7th (July) the remnant of 41 Zekes and 13 bombers was sent back to Japan."²⁰ So with this Saipan's northern air flank was secured for the duration of the battle.

The XIII Army Air Force based at Los Negros performed similar airfield interdiction missions to the south; on 20 and 22 June B-24s attacked Woleai, then flew a daily average of 21 sorties against Yap between 23 and 27 June. Also for a five day period more B-24s from Kwajalein hit Truk, from 19 to 23 June, on high altitude, long-range missions. The cost was not light, with two B-24s shot down and 21 damaged on the attacks on Yap alone.²¹

The result of all these attacks in all these areas was that the Japanese were soon relegated to ineffective twilight or night attacks, which helped in their survival rate but also kept them from hitting much of anything. They were able to repair the runways fairly easily during the night hours, made as they were of crushed coral, but the attrition of airplanes from the American interdiction efforts made this of increasingly little consequence. A minor effort by the American pilots had also early

in the battle devastated the seaplane base at Tanapag, destroying 14 planes confirmed, with one other probably destroyed and one damaged.²²

Transport/Medevac

At the beginning of the battle air evacuation was difficult, with the Army's Air Transport Command only able to provide five C-54s, but with the state of the battle in the early stages and the risk of flying into Aslito, most casualties were still moved offshore onto ships of the amphibious force.²³ As several thousand casualties began to be evacuated from the Saipan area on hospital ships offshore, there was a temporary critical shortage, as only two hospital ships were left. On 25 June an extensive air evacuation effort was begun to alleviate this situation, in which 860 casualties were flown out of Aslito for the Marshalls over the next several days.²⁴ At first, however, several patients were lost due to insufficient medical personnel to fly with them. There was also a shortage of air transport initially which was filled by the continued movement of supplies through the beaches. As the situation at Aslito improved and more transport aircraft were moved into Central Pacific staging areas, the shortage eased. Meanwhile, beginning on D plus one and going through the daylight hours, two CVEs were tasked to be prepared to launch as many as seven VT aircraft on one hour notice to air drop supplies to the ground troops as needed.²⁵ This was necessary in many cases due to the difficulty of moving supplies to forward areas which lacked roads.

As the air traffic into Saipan from outside the Marianas was increased, all search planes, transport aircraft, and medevac aircraft were instructed to check in with Commander Support Aircraft on his frequency prior to entering the area.²⁶

Close Air Support/Artillery Spotting

These functions were some of the most important performed at Saipan, with the most direct impact on the soldiers and Marines on the ground. As such, they will be covered in greater detail in the following chapter. This will include the actions of the Army P-47s.

In summary, air power at Saipan showed not only the brute force it could wield but also its versatility. U.S. air assets attacked the Japanese in the air, on their airfields, on the sea, under the sea, and on the ground. Indirect uses such as air transport and artillery spotting made vital contributions as well. In short, the Americans had learned some valuable lessons from the long, grueling war, and were able to present every type of enemy threat with a highly capable airborne counterforce.

CHAPTER SEVEN

CLOSE SUPPORT OPERATIONS

This chapter deals with the type of air support which was most visible to the soldiers and Marines on the ground, that of close air support. It discusses the effectiveness, or lack of effectiveness, of U.S. attempts to directly attack dug-in enemy troops as American forces advanced over the island. Discussions of the assets, including joint assets, involved as well as the control authorities and procedures are included.

Assets

On the Navy side, all the aircraft carried by the seven fleet carriers, with approximately 84 aircraft each, the eight light carriers, with about 45 aircraft each, and the eight escort carriers, with about 25-35 aircraft each, were available. After the approach of the Japanese fleet for the Philippine Sea battle, the fleet carriers were for the most part out of the business of close air support (CAS). The escort carriers stayed to the east from that point on and provided the bulk of the CAS as well as much of the CAP over the island and the amphibious groups.¹ The fast carrier groups also began to alternate in July, with some steaming to Eniwetok for rearming and refueling, and the others staying off the Marianas.²

The Army Air Force added a joint aspect to the conduct of close air support, as well as CAP, at Saipan. Two squadrons of the 318th Fighter Group, the 19th and 73rd, part of the Seventh Air Force, had been brought

into the area on the escort carriers Manila Bay and Natoma Bay, and on 22 June the first 22 P-47s were catapulted off the decks 60 miles off Saipan, which was an unusual experience for the Army pilots. The remainder were flown into Aslito on Saipan in the next two days, bringing the total to 73 P-47s. Newly captured Aslito Field, which was about a mile from the southern beaches on a flat area, had been repaired in the previous few days and now had an improved crushed coral runway 3,600 feet in length, which would be lengthened to 4,500 feet over the next few days. It had a second shorter runway angling to the southwest from the main runway.³ There was also a small unfinished airstrip just north of Charan Kanoa near the beaches. Aslito would also be used for B-24s beginning on 9 August and B-29s on 15 October.

As soon as the P-47s landed, ground crews already ashore began to fit them with underwing racks for rockets, and they prepared to go into action. Later that day, eight aircraft took off for their first close support mission of the Saipan battle.⁴ By the 22nd all the P-47s were ashore, as well as a detachment of seven P-61 night fighters of the 6th Night Fighter Squadron, which would provide night CAP over Saipan.⁵ The P-61s, as discussed in the section regarding CAP, would have some success against Japanese dusk and night raids.⁶

The only representatives of Marine air at Saipan were the handful of OY Grasshopper spotter planes of squadrons VMO-2 and VMO-4, which also flew in from escort carriers to land first at the dirt strip at Charan Kanoa or on Yellow Beach. They moved to Aslito when it was secure. VMO-2 would fly 243 missions and VMO-4 would fly 400 in support of ground forces while at Saipan.⁷ Air Warning Squadron 5 also operated with the ground forces to provide early warning and vectoring services, one detachment

operating with each Marine Division, and another with Corps troops.⁸

Admiral Nimitz had two Marine night fighter squadrons available in the Marshalls, but he decided to send the Army night fighters instead. They would be augmented by the Marine aircraft after the battle.⁹

The spotters, Army and Marine, would be assisted in coordinating fire support by the 295th Joint Assault Signal Company (JASCO), which had liaison teams attached to each of the Army battalions. They would assist with naval gunfire and artillery support as well as close air support.¹⁰ The Corps artillery cell was also configured to prioritize all these forms of fire support.

Control Procedures

All these close support assets would be controlled at each objective by the Commander Attack Force through the Commander Support Aircraft from the time they arrived on station until their departure for recovery on their home carrier. Prior to reporting on-station and on the way back to the ship, they would be controlled by their respective carrier.¹¹ The Army and other assets would be controlled by their own units. After the Landing Force Aircraft Support Commander was established ashore the Commander Support Aircraft could place aircraft under his control for CAS missions if he so desired.¹² Targets were designated by the Commander Support Aircraft giving the island (i.e. Saipan or Tinian), then the target map sheet number, and then the designating numbers and letter of the target area. The Northern Troops and Landing Force OPLAN gives this example: "95 Pink, this is Rebel. Bomb pillbox on (Saipan) sheet two target area 851 Dog."¹³ Air Liaison officers used the same method to request air support. Air-ground visual communications were

necessary to further pinpoint most targets. The ground troops used fluorescent panels to mark the forward line of own troops (FLOT), as near to the front line as practical. They were yellow or red, about 30-36 inches wide, and carried by four men in each squad. Specific targets were usually designated by white phosphorus (WP) rounds, and Very pistol signals (flares) were used by aircraft to signal the troops that an attack was commencing.¹⁴

The fighter direction system ashore was also set up early. Special units of the garrison forces went in soon after the assault force to establish early warning and fighter direction units ashore. Fighter direction units gaining contact on a "bogey" would report it to a force, group, or unit Fighter Director, depending on the location, on the Interfighter Director Net, who would transmit it to the fighter assets in turn.¹⁵

Army Air Force Employment

During the Marianas campaign units of the Seventh Air Force for the first time engaged in close air support of forces on the ground. Until this point the joint aspect of the battle had been the out-of-area contributions of the B-24s on long range missions against other islands, with the exception of the early reconnaissance missions escorting Navy aircraft over Saipan. Here the joint aspect, and the contribution of the Army Air Force, would be more direct. The P-47 pilots had received additional training in close support while in Hawaii, flying the ranges there with rockets and 500 pound bombs. They had participated in several joint exercises with some of the ground units who were to conduct the assault in the Marianas.¹⁶

The primary mission of the P-47s was CAP, but this airplane, as it would demonstrate in Europe as well, was well suited for ground attack. Its ability to carry a variety of air to ground ordnance, its powerful load of eight .50 caliber machine guns, and its ruggedness were great assets. Admiral Turner described the work of the P-47s by saying:

. . .the P-47s were very extensively used for troop support. . .they could make many more flights per day from the field than could planes from a carrier; they were available for extensive personal briefings by troops; and they could carry more bombs and more rockets than could carrier planes.¹⁷

There is some doubt as to the validity of the first two of Admiral Turner's statements in regard to Saipan. An examination of the operational reports of the 19th fighter squadron shows that a large number of the squadron's sorties in June were flown over Tinian. Due to the extremely close proximity of Tinian to Saipan, with a strait of about three miles, it could be argued that this was almost the same as hitting targets on Saipan, since Japanese artillery on Tinian had the range to hit numerous American positions on Saipan. However, as the battle progressed to the north, Tinian was farther and farther from the forward lines, and close support there became either protection of rear areas from artillery or early pre-assault bombardment, or both. The movement forward of the lines would also negate somewhat the validity of Admiral Turner's statement regarding briefings; the troops were soon relatively far removed from Aslito and any ability to conduct pre-strike liaison with the Army pilots would be limited, especially for short-notice strikes. It is certain, however, that it was still easier for a ground commander to talk to the flight leader of an Army flight prior to takeoff than it was for him to talk to the flight leader of a carrier strike.

The P-47s fulfilled their primary CAP mission by flying daily from 0515 to 1900, with the squadron currently responsible for maintaining CAP cover maintaining at least eight aircraft airborne and twelve on alert. Being regularly airborne in an area where there was an increasing scarcity of enemy aircraft gave the Army planes the opportunity to accept even unscheduled missions to conduct strafing, bombing, and 4.5 inch rocket attacks on targets on either Saipan and Tinian.¹⁸

An excerpt from the 19th Fighter Squadron history gives an indication of their operations during the latter part of June:

During the remaining eight days of the month of June the forty pilot officers . . . flew a total of 201 sorties involving 35 scheduled missions over enemy territory (a mission would involve more than one aircraft). In striking the varied targets selected, the squadron expended approximately 165,225 rounds of .50 cal. ammunition; 207 rockets (4.5); and 35 1/2 tons of 500 lb. G.P. bombs. Methods of attack varied with the type of target and a breakdown shows: 18 strafing missions, 8 bombing and strafing missions, 1 bombing, strafing, and rocket mission, and 1 mission in which three pilots covered a PBM down off Rota island. . . and 1 mission involving the use of both bombs and rockets.¹⁹

On their first mission on 22 June, to support the 4th Marine Division's advance on Mount Tapotchau, two flights of four aircraft launched, reported in to "Cherokee," the call sign of the controller on the CAS control frequency, and began to orbit at Point X-ray, an initial point offshore. They orbited for 30 minutes, then proceeded to the target area, where they sighted five military trucks. The flight leader then ". . . requested permission to strike these targets. Permission refused. No air support was requested by ground troops on Saipan and flights were ordered to proceed to Tinian. . . ." to attack anti-aircraft positions.²⁰

In a typical attack, a flight of four, call sign Bluegrass 5, took off at 0530 on 25 June to strafe Marpi Point Airfield at the north end of Saipan. The first pass was made from 5500 feet coming in from the east.

"Flight strafed truck in area 288K, and building in area 292U. Bluegrass leader observed what appeared to be ammunition stacked in area 287D and E on second strafing pass. . . They saw no sign of activity on the field."²¹ Other strikes included two fighter sweeps against Marpi on 27 June. On the second they were over the target when they were ordered to proceed to Tinian and report to ". . . Fearless Control for instructions. Leader not able to receive Fearless on Dog channel. Flight then told to report to Oxygen Base, who were unable to give flight further instructions."²² The P-47s proceeded to hit Ushi Point Airfield on their own initiative with guns and rockets, hitting gun emplacements and buildings. On 28 June they hit Marpi Point again with two sweeps of eight aircraft each, dive bombing with bombs and hitting an ammunition dump and several small installations, meeting with "meagre heavy AA fire. . ."²³

On 29 June the P-47s hit Marpi Point again on one mission and then flew a ground support mission in Areas 203I and 212P in the north, hitting enemy troops in wooded areas with strafing runs. On 30 June at the completion of a CAP mission a flight of four flew a mission to strafe enemy troops in wooded areas and caves in the north.²⁴

The trend here, with the paucity of actual close support missions near friendly troops, seems to indicate that the troops did not quite trust the Army pilots to hit targets close to their own lines, and perhaps also that the nature of the battle in the north, with many caves and other underground positions, made it difficult for aircraft to find and hit them. This may have led them to request strikes on targets such as the airfield at Marpi Point, which on the dates of the above strikes would not have been close to the forward line of friendly troops.

One important development that began at Saipan was the use of fire bombing techniques. In July, in addition to the regular 500 and 1000 pound G.P. bombs, "the squadrons of the Group experimented with various types of fire bombs, using wing tanks and belly tanks as containers for mixtures of diesel oil and gasoline and later using the new napalm and gasoline mixture."²⁵ It would not be an effective technique until later, but the experimentation here at Saipan would pay major dividends in enabling the aircraft to reach enemy troops in inaccessible positions in later battles such as Iwo Jima. These bombs would soon be able to clear an area of 75 feet by 200 feet.

The P-47s were able to be of considerable assistance even late in the battle, as on 4 July when they flew bombing and strafing missions against Japanese columns moving northward in the northern part of Saipan, doing so under rainy weather conditions.²⁶ This type of mission was important as the few thousand remaining Japanese attempted to move and concentrate for massed attacks.

The role of the P-61 night fighters was to assume night combat air patrol, and they had some success, as mentioned before. This was their first use in the Central Pacific. Their success was limited by the difficulty of intercepting enemy aircraft at night visually, and by the enemy tendency to attack in small groups or singly. Another problem was that all the airfields in the Marianas were situated on plateaus, so that ships offshore could not see aircraft preparing to take off, even if star shells were used. This made it difficult for ships to fire on runways where aircraft were taking off or landing, to prevent them from doing so.

The P-61s did manage to shoot down several aircraft as related earlier, but the night of 24 June was more typical. Ten Japanese aircraft

attacked the transports offshore and the Charan Kanoa beach areas, doing minor damage, and neither ships' anti-aircraft guns or night fighters were able to down any.²⁷

The Army squadrons' unique position of being land-based in a predominantly carrier-based operation meant that some of their support functions were handled separately, including resupply of spare parts and fuel, which was brought in to Aslito from offshore as well as by transport aircraft, and the maintenance of their aircraft. They also had their own separate communications setup. The planning section of the Seventh Air Force had developed the communications plan for the Army squadrons, which they used when they were not talking to the regular strike controllers on strike frequencies. A task force air communications staff was in charge of Army Air Force communications and joint communications center matters.²⁸

Employment of Observers/Spotters/Marine Air

A less glamorous but very important mission for aircraft at Saipan was serving as observers or spotters for ground troops and artillery units. This mission was perhaps even more important at times than close air support, since it enabled the Army and Marine guns to hit targets closer to friendly troops and with more accuracy than could the aircraft. Prior to the arrival ashore of artillery liaison aircraft, one Navy observation aircraft with an artillery observer onboard was stipulated under the operation plan to be available to each of the 10th and 14th Marines and the XXIV Corps Artillery. The assignment of observers for this phase was set up prior to the operation, and requests for use went through the normal command channels for strike aircraft.²⁹

It required about four hours airborne to enable an observer to be sufficiently oriented to accurately relate points seen from the air to ones he was familiar with on the ground. The centralization of observation aircraft made briefing and interrogation of pilots and observers easier. An assistant S-2 (intelligence officer) would go to the field with vertical and oblique photos, so targets could be pinpointed via telephone to the Air Center S-2.³⁰ Also a marked photo was given to the observer for aerial identification. Pilots were helped by the practice of keeping the front lines marked on an S-2 situation map available at the field. Information provided by airborne observers was promptly telephoned back to the Corps Artillery Fire Direction Center and "...interchange made between the S-2 and Air Center S-2."³¹

The initial artillery spotting was done by carrier aircraft under the control of the Commander Support Aircraft; these had the advantage of being able to strike as well as spot. As soon as spotter aircraft arrived ashore, the control passed to the respective division or corps artillery unit. The observers themselves were Army and Marine personnel trained to keep the landing force commander and other cognizant commanders informed on the ground situation, especially the latest positions of the front lines. The spotter mission was distinct in that the planes were concerned with directing fire for artillery or naval gunfire.³² Aircraft spotting for artillery were given a frequency and call sign for each of the following units: Northern Troops and Landing Force (NTLF), 2nd Marine Division, 4th Marine Division.³³

References to the Marine Grasshopper aircraft (Stinson Sentinels, designation OY-1) do not specify whether they were also used to spot for Army artillery, but there were a small number (two) of Army spotter

aircraft operating along with the troops, and they performed the mission for the Army. It is not clear whether the two services shared spotter assets on occasion. By 19 June the Army Corps Artillery had assumed the important role of providing fires for the 10th and 14th Marines as well as support for the 27th Division Artillery. Observers ". . .made possible registration deep in enemy territory, prevented movements and assembly of enemy troops, and helped hit permanent enemy installations."³⁴ From this data, it is reasonable to assume that some sharing of air assets was implemented.

The Marine squadrons, VMO-2 and VMO-4, provided valuable assistance in several situations. These aircraft had flown from the escort carriers to spot for artillery until 17 June, when they flew into the small dirt strip at Charan Kanoa. They would soon move on to Aslito. On 23 June the 8th Marines commander, Colonel Wallace, requested and got an aircraft from VMO-2 to search for supply routes and evacuation routes in the area around Mount Tapotchau. One of his own officers was sent aloft, and discovered a road on the mountain's lower slopes which had not been earlier visible to ground reconnaissance patrols. This was a great help in solving critical logistical problems the regiment was having in getting sufficient supplies to the front. The same flight also disclosed that the only approach to the top of the mountain was the ridge along the divisional right boundary, and that seizing a high, rocky cliff dominating it would first be necessary.³⁵ The Grasshoppers also proved invaluable in providing other miscellaneous intelligence information as they flew over enemy lines, and by evaluating air strikes.

Support from the Fast Carriers

There is little to cover here that has not been covered in recounting the support of the fast carriers during the pre-assault strikes and the landing. Once they left the area for the Battle of the Philippine Sea, the fast carriers primarily left the conduct of close support operations to the escort carriers and the recently land-based Army Air Force aircraft. Their primary support from that point on was in providing CAP over a wide area around the Marianas, and in continuing the series of strikes on other islands for airfield interdiction.

To keep the Japanese off balance, Task Group One (Hornet, Yorktown, Bataan) raided Pagan on 23 June, and the other carriers flew daily photoreconnaissance missions over Guam and Tinian.³⁶ On 24 June Task Group One also launched 48 Hellcats against Iwo Jima, destroying 68 enemy aircraft to the loss of four of their own. The enemy attempted to retaliate with his remaining strength, and lost another 46, for a daily grand total of 114 Japanese aircraft shot down.³⁷ The Task Group completed its mission without so much as having to bomb any of the airfields. On 25 June Task Group Three flew a series of heavy bombing raids against several airfields and installations on Guam and Rota.

On 2 July both Task Groups 58.1 and 58.2 hit Iwo once again. This time 63 U.S. aircraft shot down 50 Japanese fighters and destroyed an undetermined number on the ground. They celebrated the Fourth of July with heavy strikes against Iwo, Chichi, and Haha. It was thus that "...the U.S. Navy's covering operations effectively isolated Saipan from outside Japanese interference."³⁸ So the fast carriers continued their own brand of "close" support from a distance, with devastating effectiveness.

Support from the Escort Carriers

The contribution of the escort carriers to the close air support effort was substantial. From the beginning of the battle, the CVEs kept a force of about 20 bombers and 16 fighters orbiting at two stations about eight miles offshore, to enable prompt delivery of "call strikes." These strikes were not always delivered promptly, but it was due to the long lines of communication involved, and not because the aircraft were not there. The effort was directed by Navy Captain R.F. Whitehead, the Commander Support Aircraft, on-board the command ship Rocky Mount. He received calls from fire control parties ashore and relayed them to airborne aircraft for execution.³⁹ For coordination, liaison officers were present at the command posts of the 10th and 14th Marines as well as the XXIV Corps Artillery. They were to coordinate naval gunfire, artillery fire, and air strikes.⁴⁰

Targets for the strike aircraft included: counterbattery fire against inland guns, especially guns that ships could not see or hit; mobile artillery pieces, particularly those on slopes overlooking areas where friendly troops were operating; enemy personnel and vehicles moving either toward the lines or away from them. Airfields were to be struck only to the extent necessary to deny them to the enemy, to facilitate friendly use after capture.⁴¹

The VTB and VSB aircraft could carry two or four 250 pound or 500 pound bombs, and some were modified for rockets, although as discussed earlier this was not found to be an ideal weapon for the slow torpedo planes. They could also carry up to twelve 100 pound bombs.⁴²

The CVEs suffered more operational losses than losses from aircraft shot down during ground attacks during this period, but most of the

operational losses were induced by enemy action. On 17 June Japanese air attacks near dusk caused the escort carrier aircraft to have to land after dark, resulting in 19 destroyed planes. They did succeed in shooting down several of the intruders. On the next evening, enemy aircraft attempted a small-scale interference over Saipan, with two being shot down. Several more attacked the ships offshore, damaging three tankers, with the Japanese losing another six. Once again the American aircraft had to attempt landings aboard the CVEs at night, losing another 31 aircraft. After this, one of the CVEs, the Kalinin Bay, had to steam to Eniwetok for replacement aircraft.⁴³ These Japanese aircraft were the remnants of a group of about 120-130 that had already been intercepted by other carrier aircraft as they flew down from Yokusuka to Saipan to hit the beaches and landing ships. To get them the Japanese had to "scrape the bottom of the barrel in both planes and men."⁴⁴ Most had been shot down before they reached Saipan.

The CVEs had seen almost constant action since 11 June. The fast carriers had beaten off the enemy fleet and intercepted many aircraft enroute to Saipan, but they were the responsibility of the escort carriers, along with the P-47s, once they got there. On 22 June CAP from the CVEs shot down three enemy bombers about 45 miles from Saipan heading for the anchorage. On that same afternoon one aircraft managed to sneak into the anchorage and damage the battleship Maryland seriously enough with a torpedo to send her back to Pearl Harbor for repairs.⁴⁵ On 23 June the enemy efforts were continued, with CVE CAP from the Midway shooting down two as they neared the island. The few night fighters on the CVEs, along with the land-based P-61s, were up to attempt to intercept Japanese night raiders. These attacks by small numbers of aircraft continued sporadically throughout the battle, with a few shot down by night fighters from the CVEs

and a few by the P-61s. A night attack on 6 July by 12-15 enemy planes resulted in no hits, and night fighters from the CVEs downed two. The last night attack, on 7 July, consisting of nine separate small raids, resulted in little damage and the fighters from the carriers and Saipan each downing one.⁴⁶

The close air support mission continued during all this, although it diminished significantly as the soldiers and Marines moved toward the north end of the island. CAS at Saipan included "no innovations or departures from accepted technique."⁴⁷ The exception to this would be the early experimentation with fire bombs. The CVEs flew a variety of missions along with the standard ground strikes, including photographic flights over the enemy positions, smoke-making missions, and air delivery of packages for the troops. During the first days of the battle there were sometimes as many as twelve "urgent" requests for close support. Because of the difficulties of operating aircraft on more than one mission simultaneously in a restricted area, a "filter system" was set up so the officer handling the support air request net would "pass the mission to the air liaison officer at the regimental or divisional CP for screening and decision as to which mission, then pending, deserved priority."⁴⁸ This system of screening missions at the lower levels worked satisfactorily enough and "was the best solution considering that only one Support Aircraft Control Party controlled aircraft supporting three divisions."⁴⁹

For this party to screen each mission itself would have overloaded it and greatly decreased its efficiency. After artillery had been established ashore, the air support requests decreased, and air missions were confined to targets where terrain would make a strike from above the best option.⁵⁰

The action on 20 June offers an example of the use of air support in the taking of a particular objective. The 27th Infantry Division was conducting an attack on Nafutan Point to clear out a large number of Japanese troops that had been cut off there and bypassed. As they moved down the peninsula on which Nafutan Point was situated, the 27th used a combination of artillery, mortars, tanks, naval guns, and air support to clear the enemy out. Later in the day as advancing American soldiers came under fire from Japanese artillery firing across Magicienne Bay, they used a combination of naval guns and air strikes to do the job.⁵¹ This action cleared the way for the use of Aslito Airfield.

On 19 and 20 June all the escort carriers launched an large number of strikes against targets on both Saipan and northern Tinian, in an attempt to both soften these up and to disrupt enemy communications over a wide area. On 24 June as the 2nd Marine Division moved into the area of the Kagman Peninsula on the east coast, the Marines found that "...some of the (cane) fields had been burnt out by the napalm-bombing of some of our planes."⁵² So at least some of the early experimentation with fire bombing was successful. The significance of burning cane fields was that they were infested with Japanese dug in and hidden among the cane, and many Marines had lost their lives going through the fields. The fire bombing did what would have cost the Marines much time and blood to do.

Some of the CVEs of the Southern Force often came north to help out, as when Sangamon and Suwanee came up on 25 June to participate in a large number of strike and spotter missions over Saipan. A small number of enemy planes were encountered and a few shot down, with the loss of four U.S. aircraft to flak over the island.⁵³ The number of aircraft lost to flak was usually not exceptionally large, but the loss of four aircraft on

this one day illustrates that there were enough enemy guns to make ground attack a risky business.

In another example, as the 2nd Marine Division prepared on 28 June to move into Garapan, Saipan's largest town, they called on air, naval, and artillery support for assistance. The significance of Garapan was that it was one of the few instances of a very complicated type of warfare encountered in the Pacific, that of urban fighting. Although the 2nd Division was specially trained for this kind of fighting, they wanted the area well prepared before they went in. The combined efforts of the three types of fire support complemented each other well, and the town was systematically leveled almost to the ground.⁵⁴ It was in this kind of scenario that a saturation by air-dropped bombs could really pay dividends.

Effectiveness

There were situations, such the one just cited, where air was a decisive factor, and other situations where it did not work as well. The Task Force 58 Action Report, describing Japanese anti-aircraft base defense as having "more guns and heavier guns which are more accurate at all ranges including extreme ranges. . .," also said that experience was showing that these emplacements "cannot be reduced quickly by bombing and casualties are high when it is tried."⁵⁵ The solution was to either develop new bombing methods such as ". . .bombing through smoke screens or anti-aircraft must be reduced by surface fire unless the silencing of anti-aircraft batteries warrants a high expenditure of pilots and planes."⁵⁶ It also said that in relation to these batteries in particular (but this would apply to other targets as well) saturation bombing did not work well, but that "pin-point bombing (should) be the primary objective for carrier-based aircraft," due

to the risks to the aircraft as well as the large amount of ordnance required. Carrier aircraft were described as "comparatively ineffective against airfields."⁵⁷ The success that the fleet enjoyed in hitting the Japanese fields was not in destroying the easily repaired runways but in denuding them of aircraft.

A recommendation for more effective and more responsive use of carrier assets was to use a "target CAP" which had just been relieved on station to "observe enemy movements and knock out enemy reinforcements immediately after the first day's strike. . .⁵⁸ The advantage here was that the assets were already on station; the intent was to hit airfields primarily but this technique could also be used for ground targets of opportunity, although it would not work well for "call strikes" because it would have even more delays than strike aircraft already on the close support net.

Aircraft, in conjunction with gunfire, were effective in keeping down enemy artillery. An example was at Aslito, which was within range of enemy artillery on both Saipan and Tinian. The lack of real interference with air operations there was an indication of the ability of gunfire and air strikes together to ". . . knock out and keep down enemy gun positions."⁵⁹

Operations at Saipan pointed out the inadequacy of VT bombers for either glide-bombing or rocket attacks under heavy anti-aircraft fire because of their slow approach speeds.⁶⁰ However, in conjunction with other gunfire or in areas where flak was lighter even these aircraft were effective. The Task Force 58 Action Report describes the use of bombs and their effectiveness:

The use of increasing numbers of small general purpose and fragmentation bombs on strike missions in support of landing operations was effective in destroying personnel as well as. . .planes. Especially was this true in attacking objectives such as Saipan. . .where the enemy had dispersed himself in slit trenches over considerable areas. It is recommended that a greater number of small bombs be also used against open anti-aircraft batteries.⁶¹

The report recommended further use and development of incendiaries, particularly in towns and canefields, as "initial breaking up of the buildings. . .by general purpose bombs, followed by the liberal use of incendiaries, did a first class leveling job."⁶² Probably the best use overall for CAS was for strafing, as it was the most accurate form and so better both for hitting the enemy and for not hitting friendly forces.⁶³ The obvious limitation here is that most hardened targets cannot be effectively reduced by strafing. Even some of the targets hit by both naval guns and airstrikes were difficult to knock out. When the 4th Marine Division was moving toward the east coast early in the battle, several positions which had been silenced by combined gun and air attacks opened up again as the Marines advanced.⁶⁴

The CVEs which carried F6Fs instead of FM-2 Wildcats had an advantage in effectiveness. The FM-2s could only strafe, being unable to carry any bombs. The carriers carrying F6Fs were, as Admiral Conolly of the Southern Force pointed out,

Very well suited for work with an amphibious group because. . .(they) are able to carry a well balanced complement of Avengers and Hellcats (the latter aircraft being far superior. . .as a fighter, strafing, and bomber). . .⁶⁵

A conversation during a CAS mission over the air net as heard onboard USS Honolulu gives some idea of the daily routine:

Commander Support Aircraft (CSA) to a squadron commander: "Mission for you. Over target area 173-U, orbit around so you can see the whole area pretty good. Enemy troops in that ravine, our troops 200 yards west on crest of hill. Panels are laid out. Ground troops will designate

target area with white phosphorus. You tell us when you want it laid out."

Squadron commander: "I can see three white panels. I'm going to take a run in there."

CSA: "I'll have them lay white phosphorus right away."

SC: "Have them shoot the 'William Peter' right away."

CSA: "Smoke is on the way."

SC: "I can see it now."

(Silence for a few minutes)

SC: "Attack completed."

CSA: "Very good. After the first run we got a report you were a little short, but the second one was a direct hit."⁶⁶

This particular request had been quickly executed, but the average delay between call and delivery was over an hour, partly because there were 41 liaison parties competing for the CSA's attention and partly due to the difficulties the pilots had "in locating the exact areas to be strafed or bombed."⁶⁷

Regardless of the difficulties, the overwhelming American air power at Saipan meant that the troops had more air support than they could use, especially as the area under enemy control diminished later in the battle. The Japanese themselves are a good indication of the effectiveness of the different forms of support. They stated that "the most feared of (U.S.) weapons was the naval shelling. . .second in effectiveness was the aerial bombing, and lastly artillery."⁶⁸

The use of naval gunfire was not without its problems, as each of the liaison parties was only allowed two requests per day for gunfire except for emergencies, and these had to be cleared through Admiral Turner and assigned to a ship not already occupied and with sufficient ammunition, a process that sometimes took hours. The interesting thing is that the Marines actually preferred their own artillery over air or naval guns, which was the type of support the Japanese, as discussed above, feared

least.⁶⁹ This was probably due to the familiarity and control they enjoyed in relation to their own organic fire support.

Probably the greatest successes of CAS involved disrupting Japanese communications, causing the Japanese commanders to lose effective control of the battle early by not allowing them to communicate with their units. This was accomplished both by strikes against communications facilities, and, once that was well advanced, by keeping enemy troops from being able to move freely. Japanese reserve units of platoon and company size, as well as their hospital units, equipment, and maintenance and supply units were decimated by the incessant attacks.⁷⁰

Problems Encountered

There were several problems which came up as the operation progressed, which was to be expected in an undertaking of this magnitude. They included the responsiveness of close air support, the sometimes ponderous request procedures, limited communications circuits, limited effectiveness of attacks, and the need to avoid interference with artillery fire. The following sections will examine these in more detail.

Responsiveness of CAS

The air and naval gunfire liaison officers who would be on the ground with the troops conducted briefings during the ship transit for the ground personnel, and it is probable that this helped some, but it was still an extremely complicated operation.⁷¹ As we have seen, both air and naval gunfire had some problems with responsiveness, and probably would have even on their own, but adding all three forms of fire support together made the task extremely difficult. So this led to the almost universal complaint regarding both Navy and Army close air support: the time it took

to get a strike on target. Holland Smith would again recommend after the battle, as he had before, that Marine air be made available for close support, and that some air groups be specially designated and trained for close support.⁷² Admiral Nimitz would soon honor the request by providing four escort carriers with Marine air embarked.

Request Procedures

The process of requesting the air mission, effecting the necessary coordination between air and ground units, designating the target, and then having the mission flown was very lengthy and kept the ground units waiting until it was completed. Many missions were cancelled before they could be executed because the infantry advanced past the target before the aircraft could get there.⁷³

The process of controlling CAS missions was highly centralized. Initial requests for sorties would come from one of the 41 parties ashore with battalions and regiments, and would move up the chain to division and corps headquarters (which could turn them down), and finally to the Commander Support Aircraft, Captain Whitehead, on Admiral Turner's flagship, the Rocky Mount. Once the sortie was approved, there were four methods of controlling it: by the CSA, Captain Whitehead; by the Support Aircraft Commander at General Smith's headquarters; by an air coordinator overhead; or by the flight leader assigned to the mission. There were problems inherent in this arrangement. The air liaison parties had no capability to communicate directly with the aircraft, so they had to use the phosphorus rounds and panels to mark the targets and front lines. If they could not mark it this way, the aircraft would have to make "dummy" runs while the party contacted the CSA, who then advised the planes if they

were on target.⁷⁴ Long delays were common, which was frustrating both to the men on the ground and to the pilots themselves.

Communications Limitations

Only one circuit, the support air request net, was available, and it could not easily handle the load. Added to the problem of an overloaded frequency was the problem of lax radio discipline. Saipan reconfirmed several factors which had hampered effective CAS operations in the past: the need for better communications, including a direct ground-air net between aircraft and liaison parties; control of the aircraft by these parties; an increase in close support training for the pilots; and increased armament for the FM-2, especially rockets, which were beginning to show real usefulness at Saipan.⁷⁵

Limits of Effectiveness

In the early days of the battle as the troops moved inland, they found that the naval and aerial bombardment had not quite produced the results they had hoped for, and that, as seen in earlier battles, the tendency of a pre-assault bombardment to saturate an area instead of hitting point targets often did not serve them well. This was corrected somewhat out of necessity as the battle progressed, since targets had to be pinpointed with friendly troops in the vicinity.

Interference with Artillery

One problem with air support was caused by the danger of aircraft flying through artillery fire. This made it necessary prior to a mission to check with each individual artillery unit, since there was no central artillery control center, to find out which areas around the target area

were being hit. This drawn out process had to be completed to keep friendly planes from flying into the path of friendly artillery fire and being shot down. This lack of central control was the biggest flaw of artillery, especially when the impact on air support was considered.⁷⁶ Air support, however, could impact on artillery as well, since to protect the aircraft during a strike the artillery sometimes had to cease firing for as long as 30-90 minutes while the strike was completed.⁷⁷

Fratricide Avoidance

The simple problem of an aircraft hitting something which looks much different from 10,000 feet than it does from the ground added to the level of difficulty. To an aircraft overhead:

. . .an urgent call over voice radio orders you to go down and get a field- piece that is holding up the troops in square 191Q, and you must consult the gridded map and figure out which clump of trees harbors the enemy your are there to kill.⁷⁸

This was especially tricky when friendly troops were nearby, and incidents of fratricide did occur. The worst was on 28 June while the 2nd Division was moving into Garapan. In an air strike three rockets hit the Marine lines and caused 27 casualties. The pilot had mistaken a puff of white smoke for his strike marker. The pilots were not always at fault, however. There was one incident where a Marine colonel was riding in a TBM as an observer and saw three men in a "no-man's-land" area running in a suspicious manner and jumping into a depression. Believing they were enemy, he ordered a strafing. Only after three strafing runs did the troops display yellow panels indicating they were friendly.⁷⁹

Jointness

The joint aspect of close support at Saipan was in the fact that both Army and Navy aircraft were used both for air strikes and for spotting and observation, and not in any integrated use. The planning for even this much jointness was significant, and even though the above-mentioned considerations did cause some problems with responsiveness, they did not seriously diminish the effective use of air power during the battle. The small relative number of Army aircraft may have helped in this, and may have made what could have been insurmountable problems of coordination manageable.

The bottom line is that the troops, both Army and Marine, had the support they needed in a reasonable, if not quick, manner, and with enough accuracy and effectiveness to enable them to keep their advance through the island's defenses continuing.

This chapter has dealt with the assets for close air support, their employment, effectiveness, and the problems encountered. It has discussed the question of jointness and the lack of real joint coordination between the Army and Navy air assets. The point is that joint forces working in parallel were able to accomplish their missions, so that a more highly integrated joint plan of attack was not necessary.

CHAPTER EIGHT

CONCLUSIONS

In this chapter, the conclusions drawn from all the facts and events investigated and previously described are summarized. The successes and failures of the forces involved as well as the implications of these are discussed. Finally, the conclusions gained from the research are used to answer the research questions.

Successes

The success of the American air effort at Saipan can perhaps best be summed up by the words of General Saito as he radioed Tokyo with his situation on 27 June. In anticipation of the defeat which was becoming more inevitable every day, he asked General Tojo to send his apology to the Emperor for his own weakness as a commander, with the vow to continue to defend what was left of the island to the last Japanese soldier, and adding this bitter observation: "There is no hope of victory in places where we do not have control of the air."¹

The control of the air over and around Saipan, as well as in the entire Central Pacific, was won early and completely. The successes in air combat made possible by the skill, quality, and overwhelming numbers of American fighters reduced both Japanese land and carrier-based aircraft to literally nothing more than nuisances. On the one hand, the Japanese were never able to seriously threaten either the fleet or the amphibious force, or to disrupt the landings or the conduct of the battle itself. On the

other hand, they forfeited the capacity of their fleet to be an effective striking force, and it had to retire in humiliation.

The close support effort was sufficient to meet the general needs of the ground forces, and was most successful in combination with other support. Rarely is a reference found in which air support by itself was decisive, but when used together with both naval gunfire and artillery the results were devastating to the Japanese.

The ability of the carrier forces to keep the enemy submarine threat down was also a combined effort with the surface forces, and as such it was highly successful, with the result that, like the other elements of the Japanese fleet, not only were the submarines unable to mount effective attacks against American forces, they were also decimated.

The fighter sweep, in conjunction with other aircraft such as carrier-based bombers, was highly successful in keeping Japanese aircraft on Marianas bases as well as other islands from making a real contribution. This was complemented by the extremely successful efforts of the Army Air Force B-24s to interdict Southwest Pacific bases.

Failures

The greatest failure of the fast carrier forces was in dealing a real death blow to the Japanese fleet when it approached during the Battle of the Philippine Sea. It is ironic that one of the greatest victories in naval history was marred by the fact that it could have been so much greater. This was of course due to the decision by Admiral Spruance not to go after the enemy on 19 June, and elicited comments from the aviators on the staffs at Pearl Harbor that "this is what comes of placing a non-aviator in command over carriers."² The criticism was not entirely fair,

however, as Spruance, no matter what anyone said, had carried out his primary task of protecting the landing force.

The possibility remains, however, that sufficient long-range search efforts by sufficient numbers of search aircraft could have both found the Japanese fleet sooner and assured Spruance that there was no split Japanese force trying to envelop him. The failure to search properly thus contributed directly to the above-mentioned failure to destroy the Japanese fleet.

Close air support was adequate, however it failed to be the decisive factor in the air campaign. It was only in conjunction with the other forms of fire support, naval gunfire and ground-based artillery, that it was truly effective. The biggest failure of CAS was in its lack of responsiveness. The troops sometimes had to either wait for its slow response or to proceed without it. Accuracy was sometimes a problem in hitting point targets, and much of this was due to the concealment and small size of many of the Japanese positions. This was a problem in regard to putting enemy artillery and anti-aircraft gun positions out of commission as well.

The failure of both the Navy and Army transport services to provide enough aircraft in the early phases of the battle for both bringing supplies into Aslito Field and flying out casualties caused difficulties in both areas. It caused some critical supplies which could have come into Aslito to continue to be moved in over the beaches for several weeks. It caused a more serious problem with medical evacuation, since a shortage of hospital ships after the first ones were full meant that many seriously wounded men needed to be flown out of theater. A substantial number of deaths may be attributed to this planning failure.

Implications for Subsequent Operations

One of the biggest problems during the Battle of the Philippine Sea, the communications difficulties, was actually caused by an improvement in progress. The new VHF radio equipment which had made its way through only part of the fleet had meant that there was an incompatibility between much of the communications equipment of the fleet's aircraft. This was a problem that would correct itself in time by the completion of the integration of this equipment.

Coordination procedures between different types of fire support was also a subject that had to be addressed for subsequent operations. One solution came quickly in relation to aircraft and artillery. At Guam "one of the most important techniques developed. . . was that of limiting the gunfire minimum ordinates and also aircraft pullout levels so that air strikes and naval gunfire could be done simultaneously."³ This would allow these two devastating forms of firepower to not only hit the same targets but to hit them at the same time, which in addition would cut down much of the delay for coordination which had been experienced at Saipan.

The experimentation with fire bombs at Saipan and the subsequent development of the napalm bomb would have the most important implications of any new ordnance developed during the war, with the exception of the atomic bomb. Napalm would prove devastating as a strategic weapon, as the B-29s would prove in the months ahead, but it also was very important tactically. As the Japanese increasingly buried themselves in underground fortifications, often the only way to get them out without terrible casualties to friendly troops was to burn them out. This innovation would soon be picked up by the tank builders as well, with the introduction of the flame-thrower tank.

The obvious shortcomings of the slow, ponderous system of communications between air liaison parties ashore and the airborne strike aircraft, with its long line of intermediaries, would also be soon remedied. At Guam, the majority of close air support missions were handled directly by the air liaison parties, "with good results."⁴ The new arrangement worked so well that it became the system of choice for the remainder of the war.

For the Marines, one of the most welcome innovations was the subsequent assignment of Marine air wings to escort carriers to support their remaining battles. It was not that they did not appreciate the Navy and Army air support, but they felt that due to their knowledge of infantry tactics and past experience working with Marine ground troops the Marine pilots would be more suitable for the task.⁵

Implications for Joint Operations in the Pacific

Joint operations at Saipan had much in common with joint operations throughout the Pacific War. The dual advance of Admiral Nimitz's Central Pacific forces and General MacArthur's Southwest Pacific forces would put largely separate but relatively equal pressure on the Japanese. A campaign by one could not be met with all the resources at Japan's disposal (which were increasingly few, anyway) because the other prong always had the power to mount a significant challenge at the same time.

In the same way, the use of joint American air assets continued to be largely separate but equal efforts to destroy what remained of the Japanese Empire. The B-29s and the carrier aircraft would simultaneously, but in their own unique ways, continue the destruction of Japan's imperial structure. The carriers would hit the fleet again at Leyte Gulf and would

continue to support troops at places such as Iwo Jima and Okinawa, while the Army Air Force would bomb Japan into an unrecognizable pile of rubble and would also help support troops in places such as Leyte and Luzon.

To criticize the Pacific commanders for not integrating their operations more is somewhat unfair, since the fact was undeniable that the war from mid-1944 on was going well for the American armed forces. It also should be remembered that as late as the Grenada operation in 1983, nearly forty years later, serious problems surfaced with American attempts at joint operations to conquer a relatively straightforward and lightly contested objective.

Lessons for Current Operations

The biggest lesson for modern armed forces to learn from the air campaign at Saipan is that air power, no matter how dominant it may seem to be, must be used as a partner with the other battlefield operating systems in order to realize its full potential. A quote seen in document after document relating to the battle for Saipan described attacks "by naval gunfire, artillery, and air support" (not necessarily in that order) on various targets. Add the ground component with its armor and you have, simply stated, modern combined arms warfare. Air power can do many things, especially when it has air superiority in an area, but bombs alone will never be able to substitute for forces combined and coordinated across the spectrum of warfare.

In the matter of close air support specifically, one particular item bears relating to the current situation. There has been discussion in recent years about the feasibility and necessity of having four different air forces in the U.S. armed forces. The most frequent target named in

these discussions is the Marine air capability. The problem with the arguments of those who would do away with Marine air is that many of the same considerations which were present at Saipan are still a factor today. Marine pilots still know more than Navy and Air Force pilots about infantry tactics, and are able to train much more in support procedures than are the other services simply because of priorities. The Army has many of these qualities as well, but does not have the high-speed, longer-range fixed wing assets that the Marines have. It is a problem that bears careful consideration, with the lessons of history in mind.

Conclusions/Answers to the Research Questions

The answer to the primary research question concerning the effectiveness of the air campaign in supporting the amphibious operations at Saipan is this: the air campaign at Saipan was so effective that it may be said with confidence that the outcome of the battle was a foregone conclusion before the Marines landed on 15 June. This was not because the Japanese positions and troops on the island were battered to the point that they could no longer resist, which was clearly not the case, but because the 32,000 Japanese troops at Saipan, with the inability of the Japanese fleet or land-based aircraft to help them in significant numbers, were effectively cut off from the outside world. This is not to say that the Japanese were not capable of some resistance, as the Battle of the Philippine Sea and forays by aircraft from other islands showed; they still had large numbers of aircraft available when the battle began. The fact was, however, that the air arms of the U.S. forces in the Pacific possessed by this time such immense resources in ships and aircraft, quality of

aircraft, and skill and training of pilots that the Japanese literally did not have a chance.

The point is that no matter how long it took the Marines and soldiers to take the island, even if they took heavy casualties and took six months to do the job, the U.S., because of its air supremacy, could reinforce at will and could prevent the Japanese from doing so. The question of the ultimate effectiveness of air power was therefore answered on the operational level by the conditions and realities of relative American and Japanese power in the Central Pacific in 1944.

On the tactical level, the question of effectiveness was less of a foregone conclusion. Several weeks of hard, bitter fighting was required to conquer the island, and the role of air power over the island was not as dominant as it was elsewhere. This was not because of a lack of air superiority there, since this certainly existed, but because of the different nature of the foe. A large force of powerful aircraft can sweep an inferior force from the air with relative ease, but the ability of that same force to extricate a fortified, dug-in group of troops is less certain. It was therefore necessary for the air assets of the force to follow along with the troops as they slugged their way up the island. The answer to the question of tactical effectiveness is this: the air support assets were, for the most part, able to do whatever job the troops required of them. They were not always effective, and some positions were still bristling with enemy troops and firepower even after an air strike. This was also true, however, of naval gunfire and artillery, and was due more to the nature of close air support than to any shortcomings of the air forces.

The secondary question of how the use of the various air assets was planned and executed has no simple answer, but has been answered in its many facets in the pages of this text. It may be summed up, however, by saying that these operations were planned on a broad scale, letting the various branches conduct their operations simultaneously without requiring massive integration. In other words, the Army air assets were not really required to work together with Navy aircraft, and vice versa, but were required to ensure that their parallel efforts were successful and did not interfere with one another. For example, an Army P-47 could take off from Aslito Field on a CAS mission to hit a concentration of enemy troops on the north end of the island, complete his mission, and return to base without needing to coordinate with any Navy aircraft except for purposes of avoiding collision. So his mission was essentially identical to that of his colleague in an F6F except that the home base was different.

The question of the needs of the forces involved on the ground and sea for air support, the assets available, and their use has similarly been answered in many ways in the text. To summarize these answers, the assets involved were the aircraft of the fifteen fast and light carriers of Task Force 58, the eight escort carriers, the spotter aircraft, and the P-47 and P-61 squadrons that flew out of Saipan, as well as the Army bombers that flew missions against various island targets outside the immediate Saipan arena. The needs of the amphibious forces were to be provided sufficient protection from attacks by either Japanese carrier or land-based aircraft so that they could safely land and supply the assault forces. The needs of the assault forces were to be provided both protection and support sufficient to enable them to advance from the beaches throughout the island until it was secured. The use of these assets was, as described throughout

this thesis, to meet these needs to the point that these goals were met. In this they were ultimately successful.

The question of whether this was a joint air operation or simply naval in character can be answered by saying that it was indeed a joint operation, by the definition of that time; i.e. that joint forces were simultaneously and effectively employed to achieve the goals of the campaign. It was not, however, a joint operation in the same way that we define it today, in that it did not utilize closely integrated, jointly trained and employed air forces. It was instead a parallel operation by joint forces, in which they succeeded in avoiding mutual interference in the accomplishment of their missions.

Finally, the question of how all the above considerations affected the conduct of operations at Saipan can be answered by saying that air operations here had a definite positive overall impact, and that they not only made possible but greatly facilitated the operations of the other American forces engaged in the battle.

It may be said, without qualification, that the power of American air forces in the Central Pacific was the decisive factor in the American success at Saipan; that it guaranteed both an eventual American victory and a stunning Japanese defeat.

TABLES

TABLE 1

AIRCRAFT DESIGNATIONS

United States

<u>Mil. Design</u>	<u>Nomenclature</u>	<u>Service</u>	<u>Number Eng.</u>	<u>Description</u>
B-17	Flying Fortress	Army	4	heavy bomber
B-24	Liberator	Army	4	heavy bomber
B-25	Mitchell	Army	2	medium bomber
F4F/FM-2	Wildcat	Navy	1	fighter
F6F	Hellcat	Navy	1	fighter
F4U	Corsair	Nav/Mar	1	fighter
OS2U	Kingfisher	Navy	1	scout/obs
OY-1	Grasshopper	Army/Mar	1	spotter/obs
P-38	Lightning	Army	2	fighter
P-47	Thunderbolt	Army	1	fighter
PBY	Catalina	Navy	2	seaplane
PB4Y (B-24)	Liberator	Navy	4	photorecon
PBY-5A	Catalina	Navy	2	amphibian
SBD	Dauntless	Navy	1	dive bomber
TBF/TBM	Avenger	Navy	1	torp. bomber

*Most fighters possessed at least limited capability as ground attack aircraft as well.

Japanese

Mitsubishi Zero-1	Betty	Navy	2	high-level or torp. bomber
Kawanishi Zero-2	Emily	Navy	4	patrol bomber (flying boat)
Nakajima 97-2	Kate	Navy	1	high-level or torp. bomber
Kawanishi 97	Mavis	Navy	4	patrol bomber
Mitsubishi Zero-3	Zeke	Navy	1	fighter known as "Zero"

TABLE 2

TASK GROUP COMPOSITION

Task Group 58.1: Hornet, Yorktown, Belleau Wood, Bataan
 Task Group 58.2: Bunker Hill, Wasp, Monterey, Cabot
 Task Group 58.3: Enterprise, Lexington, Princeton, San Jacinto
 Task Group 58.4: Essex, Langley, Cowpens

TABLE 3

ESCORT CARRIER GROUPS

NORTHERN FORCE

TG 52.14 RADM Gerald F. Bogan (COMCARDIV 25)
 TU 52.14.1: Fanshaw Bay, VC-68, with 16 FM-2, 12 TBM-1C
Midway, VC-65, with 12 FM-2, 9 TBM-1C
 TU 52.14.2 White Plains, VC-4, with 16 FM-2, 3 TBF-1C,
 9 TBM-1C
Kalinin Bay, VC-3, with 14 FM-2, 9 TBM-1C
 TG 52.11 RADM Harold B. Sallada (COMCARDIV 26)
 TU 52.11.1 Kitkun Bay, VC-5, with 12 FM-2, 8 TBM-1C
Gambier Bay, VC-10, with 16 FM-2, 12 TBM-1C
 TU 52.11.2 Corregidor, VC-41, with 15 FM-2, 12 TBM-1C
Coral Sea, VC-33, with 14 FM-2, 2 TBF-1,
 6 TBF-1C, 4 TBM-1C

TABLE 4

D-DAY STRIKE MAKEUP/ORDNANCE

<u>Location</u>	<u>Targets</u>	<u>Aircraft</u>	<u>Armament</u>
Cape Obiam	Dual guns, AA guns	6 VSB	2-500 lb GP 2-250 lb GP
Agingan Point	Coast defense guns, AA pill- boxes	4 VF 6 VSB	normal 2-500 lb GP 2-250 lb GP
Agingan Point to Charan Kanoa	Beach defenses	4 VF 6 VTB	normal 12-100 lb GP
Charan Kanoa and Sugar Refinery	Buildings and installations	4 VF 12 VTB 8 VF	normal 4-500 lb GP normal

FIGURES

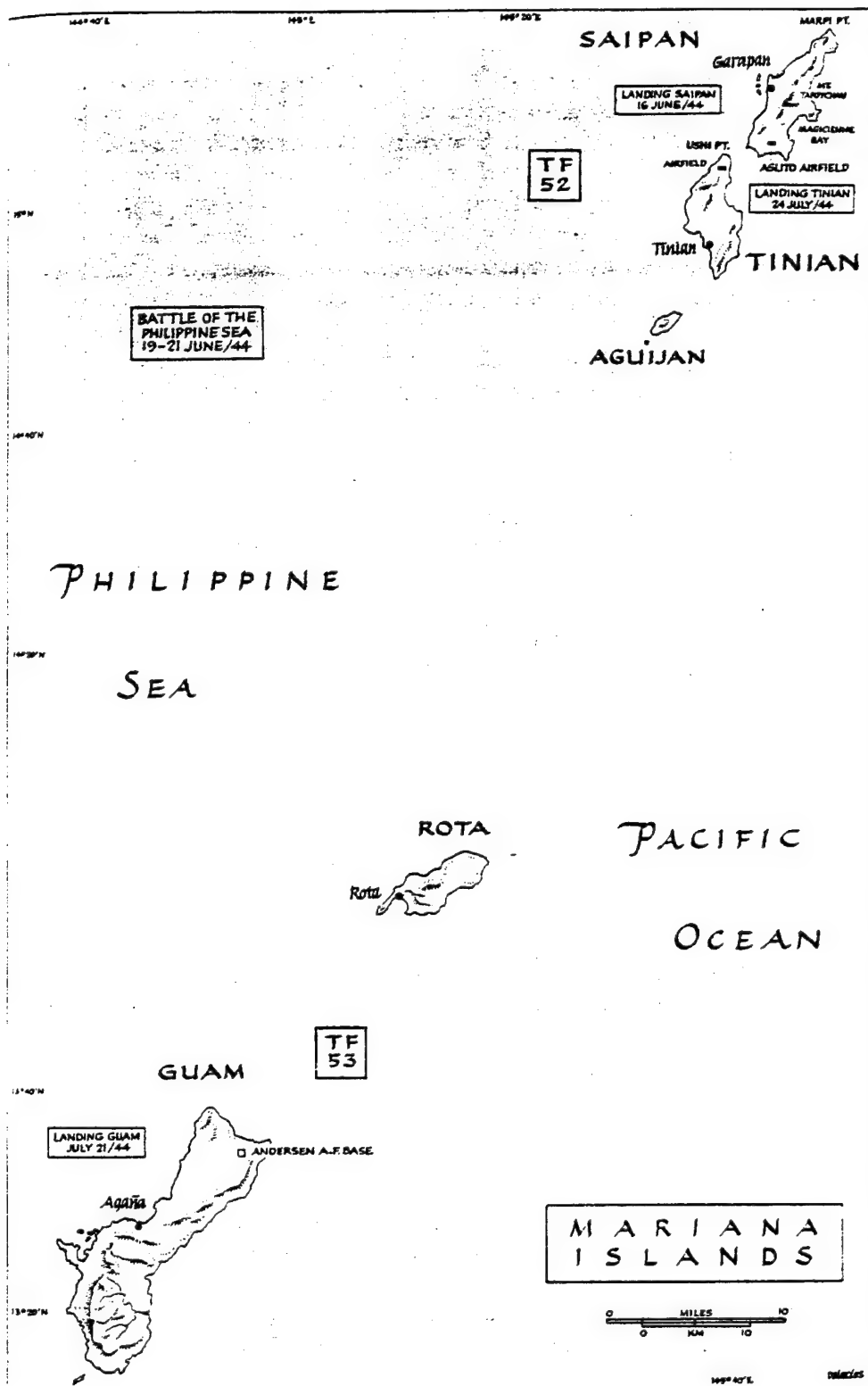
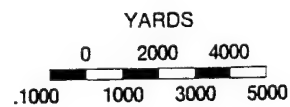
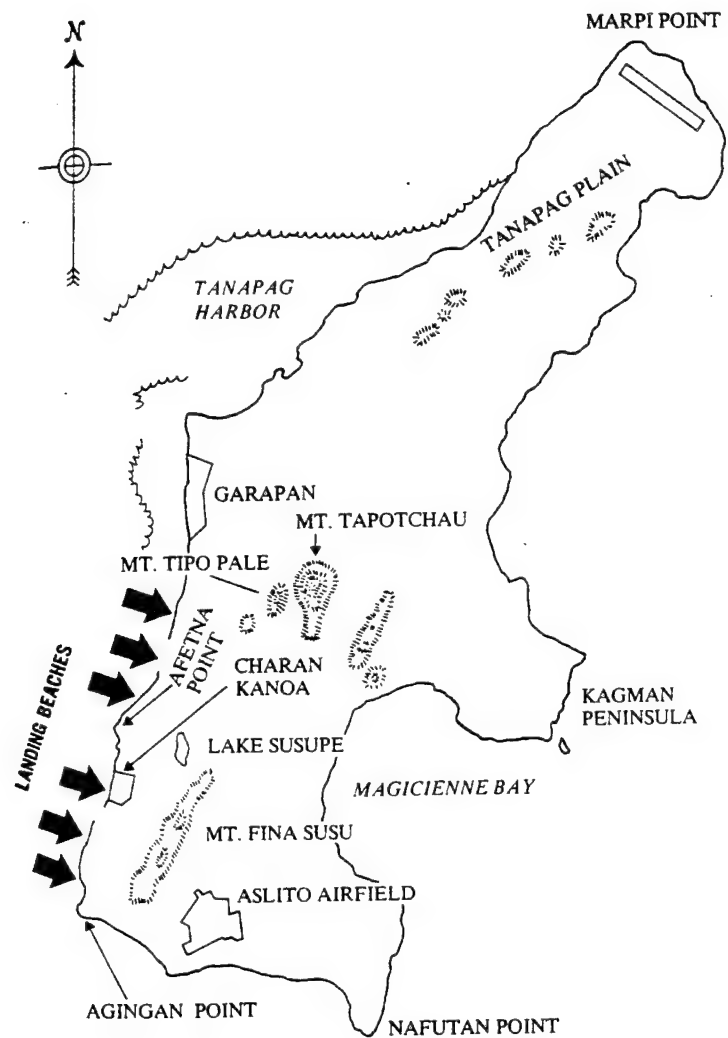


Figure 1. COPYRIGHT 1991. From The Pacific Campaign, World War II - The U.S.-Japanese Naval War 1941-1945. Reprinted with permission.



SAIPAN

Figure 2. Copyright 1969. From The United States Marine Corps in World War II. Reprinted with permission.

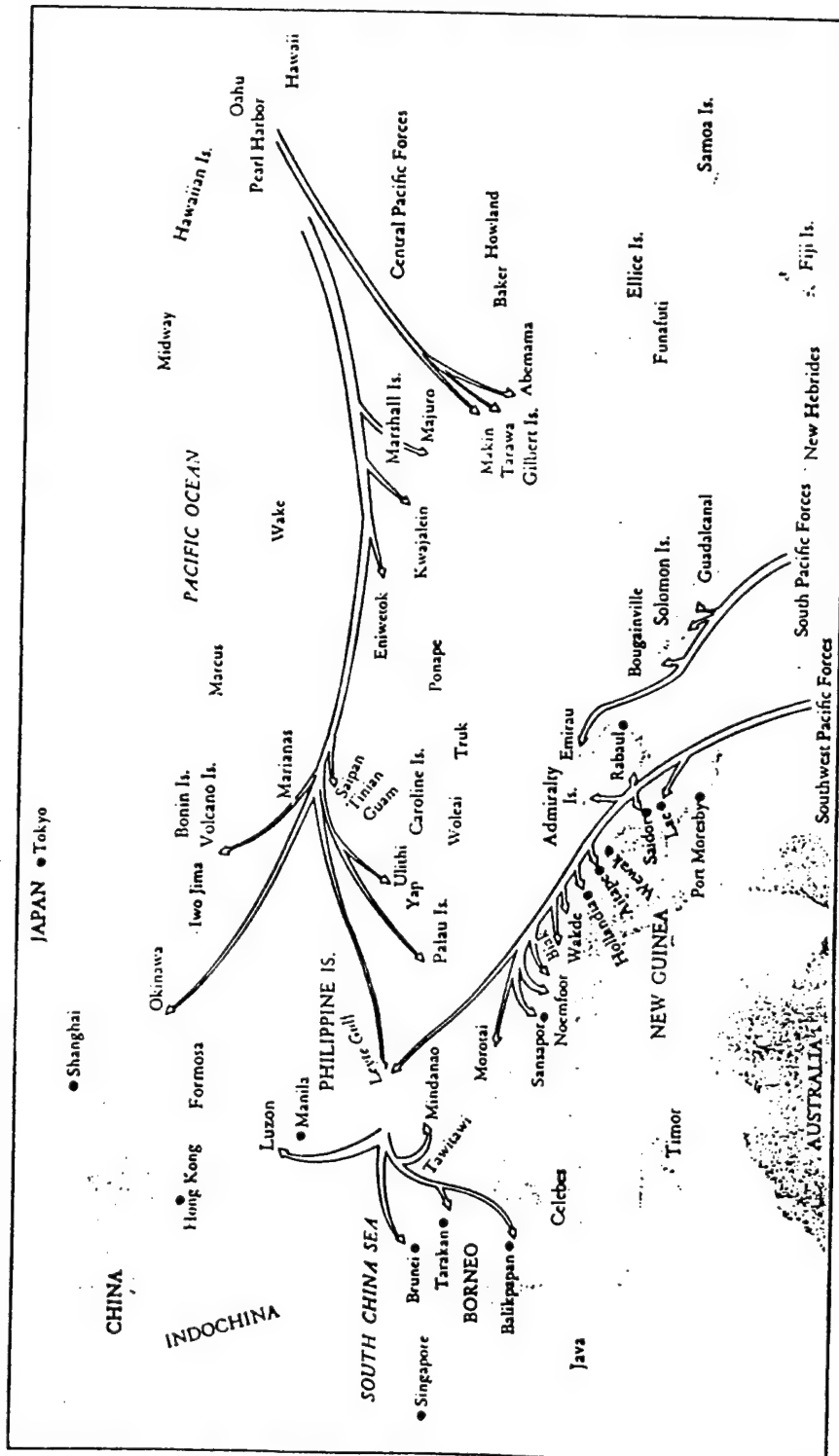


Figure 3. Across the Pacific

ENDNOTES

Chapter 1

¹Carl W. Hoffman, Saipan: The Beginning of the End (Washington, D.C.: Marine Corps Historical Division, 1950), 3.

²Samuel Eliot Morison, History of United States Naval Operations in World War II: New Guinea and the Marianas (Boston: Little, Brown, and Co., 1953), 162.

Chapter 4

¹Dan Van der Vat, The Pacific Campaign: World War II, the U.S.-Japanese Naval War 1941-1945 (New York: Simon and Schuster, 1991), 318.

²Commander Fifth Fleet, "Final Report on the Operation to Capture the Marianas Islands," 30 August 1944, 3.

³Bernhardt L. Mortensen and James C. Olsen, "The Marianas," in The Army Air Forces in World War II, Volume IV, The Pacific: Guadalcanal to Saipan, August 1942 to July 1944, ed. James Lea Cate and Wesley Frank Craven (Chicago: University of Chicago Press, 1950), 676.

⁴Ibid., 677-678.

⁵Ibid., 678.

⁶Ibid., 684.

⁷Ibid., 686.

⁸Ibid., 686-687.

⁹Commander Task Force 58, "Gateway Operation - Action Report Of," 12 March 1944, 1.

¹⁰ Ibid.

¹¹Morison, 174.

¹²Commander Task Force 58, "Operations in Support of the Capture of the Marianas - Action Report of," 11 September 1944, 12.

¹³Ibid.

¹⁴Morison, 175.

¹⁵Commander Task Force 51 Operation Plan A10-44, 24 May 1944, Annex F, 1.

¹⁶Morison, 176.

¹⁷Ibid, 178.

¹⁸Ibid., 178-179.

¹⁹Ibid., 180.

²⁰Louis Morton, Pacific Command: A Study in Interservice Relations (Colorado Springs: U.S. Air Force Academy, 1961), p.20.

²¹Edwin P. Hoyt, Carrier Wars: Naval Aviation from World War II to the Persian Gulf (New York: McGraw-Hill, 1989), 134.

²²Edward T. Buckley, Jr., "Saipan and Joint Operations," Individual Study Project (Carlisle Barracks, PA: U.S. Army War College, 1990), 1-2.

²³Ibid., 31.

²⁴Ibid.

²⁵Frank O. Hough, The Island War: The United States Marine Corps in the Pacific (Philadelphia: J.B. Lippincott, 1947), p. 222.

²⁶Van der Vat, 317.

²⁷Ibid.

Chapter 5

¹Hoyt, Carrier Wars, 133.

²Ibid.

³Buckley, 23.

⁴Hoffman, 35.

⁵Robert Sherrod, History of Marine Corps Aviation in World War II (Baltimore: The Nautical and Aviation Publishing Company of America, 1987), 250.

⁶Don Congdon, Combat World War II: Pacific Theater of Operations (New York: Arbor House, 1983), 438.

⁷Hoffman, 36-37.

⁸Ibid., 42.

⁹William T. Y'blood, The Little Giants: U.S. Escort Carriers Against Japan (Annapolis, MD: Naval Institute Press, 1987), 64.

¹⁰Ibid., 62-63.

¹¹Ibid., 64.

¹²Commander Fifth Fleet, Operation Plan Number Cen 10-44, 12 May 1944, Annex G, 1.

¹³Ibid., Annex G, 3.

¹⁴Ibid.

¹⁵Northern Troops and Landing Force, Operation Plan 3-44,
1 May 1944, Annex D, 2.

¹⁶Ibid.

¹⁷Ibid., Annex D, 1.

¹⁸Ibid., Annex D, 6.

¹⁹Ibid.

²⁰CTF 51 OPLAN A10-44, Annex F, 9.

²¹Ibid., Annex F, 10.

²²Morison, 192.

²³Sherrod, 578.

²⁴Edwin P. Hoyt, To the Marianas: War in the Central Pacific 1944
(New York: Van Nostrand Reinhold, 1980), 114.

²⁵Hoffman, 48.

²⁶Ibid., 48-49.

²⁷Hoyt, To the Marianas, 119.

²⁸Ibid., 120.

²⁹Hoffman, 56.

³⁰Ibid.

³¹Morison, 197.

³²Y'blood, 66.

³³Morison, 198.

³⁴Y'blood, 68.

³⁵Morison, 207.

³⁶Y'blood, 74.

³⁷Van der Vat, 321.

³⁸Hoyt, To the Marianas, 86.

³⁹Van der Vat, 320.

⁴⁰Morison, 285.

⁴¹Ibid., 238.

⁴²Van der Vat, 323.

⁴³CTF 58 Action Report, 22.

⁴⁴Thomas G. Miller, Jr., "Anatomy of an Air Battle," in American Aviation Historical Society Journal, Summer 1970 (Santa Ana, CA: American Aviation Historical Society, 1970), 117.

⁴⁵Van der Vat, 323.

⁴⁶Miller, 120.

⁴⁷Ibid.

⁴⁸Ibid.

⁴⁹CTF 58 Action Report, 17.

⁵⁰Van der Vat, 325.

⁵¹Miller, 117.

⁵²Ibid., 118.

⁵³Ibid., 120.

⁵⁴Van der Vat, 323.

⁵⁵Ibid., 326.

⁵⁶Morison, 318.

Chapter Six

¹CTF 58 Action Report, 1.

²Ibid., 3.

³Morison, 167.

⁴Ibid., 260.

⁵Ibid.

⁶Hough, 234.

⁷CTF 58 Action Report, 19.

⁸Mortensen, 691.

⁹Morison, 261.

¹⁰CTF 58 Action Report, 25.

¹¹Morison, 301.

¹²Eric Larrabee, Commander in Chief: Franklin Delano Roosevelt, His Lieutenants, and Their War (New York: Simon and Schuster, 1987), 395.

¹³Ibid., 390-391.

¹⁴Morison, 230.

¹⁵Y'blood, 78.

¹⁶Morison, 230.

¹⁷Hoffman, 78.

¹⁸Commander 5th Fleet Final Report, 4.

¹⁹Morison, 312.

²⁰Ibid.

²¹Ibid., 313.

²²CTF 58 Action Report, 4.

²³U.S. Army Air Force, "Participation in the Marianas Operation: USAAF in the Central Pacific Area," Volume II, 1944, Special Collections, U.S. Army Combined Arms Research Library, Fort Leavenworth, Kansas, 360.

²⁴Hoffman, 165.

²⁵CTF 51 OPLAN A10-44, Annex F, 13.

²⁶NTLF OPLAN 3-44, Annex D, 9.

Chapter Seven

¹Hoffman, 78.

²Hoyt, Carrier Wars, 151.

³Mortensen, 690-691.

⁴Hoffman, 4.

⁵John C. Chapin, Breaching the Marianas: The Battle for Saipan (Washington, DC: Marine Corps Historical Center, 1994), 13.

⁶Mortensen, 691.

⁷Sherrod, 252.

⁸Ibid., 251-252.

⁹Ibid., 252.

¹⁰Ibid.

¹¹Buckley, 36-37.

¹²Commander 5th Fleet OPLAN No. Cen. 10-44, 26.

¹³NTLF OPLAN 3-44, Annex D, 9.

¹⁴Ibid., Appendix 4 to Annex D, 2.

¹⁵Ibid., 2-3.

¹⁶CTF 51 OPLAN A10-44, Appendix 7 to Annex F, 1.

¹⁷"USAAF in the Central Pacific," 360.

¹⁸Hoffman, 133.

¹⁹Mortensen, 691.

²⁰Organizational History, 19th Fighter Squadron, 318th Fighter Group, VII Fighter Command, Seventh Air Force, June 1-July 31, 1944, Special Collections (microfiche), U.S. Air Force Historical Research Center, Maxwell AFB, Alabama, 2.

²¹Ibid., 3.

²²Ibid., 8.

²³Ibid., 18.

²⁴Ibid., 24.

²⁵Ibid., 34.

²⁶Organizational History, Headquarters 318th Fighter Group, VII Fighter Command, Seventh Air Force, July 1-July 31, 1944, Special Collections (microfiche), U.S. Air Force Historical Research Center, Maxwell AFB, Alabama, Enclosure 2, 1.

²⁷U.S. Marine Corps, "The Marines in World War II: Saipan Operations," (videocassette), Official Operation Report MOR-1, U.S. Marine Corps Photographic Service/CMI Historical Videocassettes, Nashville, Tennessee.

²⁸Hoffman, 147.

²⁹"USAAF in the Central Pacific," 375.

³⁰Northern Troops and Landing Force, Forager 4-44 OPLAN, 28 May 1944, Annex F, 41.

³¹"USAAF in the Central Pacific," 598.

³²Ibid.

³³NTLF OPLAN 3-44, Appendix 4 to Annex D, 1.

³⁴CTF 51 OPLAN, Appendix 8 to Annex F, 1.

³⁵Hoffman, 109.

³⁶Morison, 207.

³⁷Hoffman, 137.

³⁸Hoffman, 166.

³⁹Ibid., 207.

- ⁴⁰Morison, 326.
- ⁴¹NTLF Forager 4-44 OPLAN, Annex F, 5.
- ⁴²NTLF OPLAN 3-44, Annex D, 5.
- ⁴³CTF 51 OPLAN A10-44, Annex F, 10.
- ⁴⁴Hoffman, 106-107.
- ⁴⁵Ibid., 107.
- ⁴⁶Ibid., 134.
- ⁴⁷Ibid., p.244.
- ⁴⁸Ibid., 249.
- ⁴⁹Ibid., 250.
- ⁵⁰Ibid.
- ⁵¹Ibid.
- ⁵²Ibid., 117-118.
- ⁵³Chapin, 15.
- ⁵⁴Y'blood, 79.
- ⁵⁵Hoffman, 131.
- ⁵⁶CTF 58 Action Report, 18.
- ⁵⁷Ibid.
- ⁵⁸Ibid.
- ⁵⁹Ibid.
- ⁶⁰Commander 5th Fleet Final Report, 3.
- ⁶¹CTF 58 Action Report, 19.
- ⁶²Ibid., 20.
- ⁶³Ibid.
- ⁶⁴Buckley, 32.
- ⁶⁵Hoffman, 79.
- ⁶⁶Y'blood, 90.
- ⁶⁷Morison, 326-327.
- ⁶⁸Ibid., 327.
- ⁶⁹Ibid., 325-326.

- ⁷⁰Ibid., 206.
⁷¹Hoffman, 157.
⁷²Buckley, 32.
⁷³Sherrod, 251.
⁷⁴Hoffman, 250.
⁷⁵Y'blood, 84.
⁷⁶Ibid.
⁷⁷Hoffman, 251.
⁷⁸Ibid.
⁷⁹Morison, 328.

Chapter Eight

- ¹Morison, 334.
²Ibid., 314.
³Y'blood, 90.
⁴Ibid., 89.
⁵Hoffman, 250.

BIBLIOGRAPHY

Books

- Chapin, John C. Breaching the Marianas: The Battle for Saipan. Washington, D.C.: Marine Corps Historical Center, 1994.
- Congdon, Don. Combat World War II: Pacific Theater of Operations. New York: Arbor House, 1983.
- Crowl, Philip Axtell. Campaign in the Marianas. Washington, D.C.: Office of the Chief of Military History, U.S. Army, 1960.
- Creswell, John. Sea Warfare 1939-1945. Berkeley: University of California Press, 1967.
- Dempsey, David. "Saipan's Blue Beach." In The United States Marine Corps in World War II, ed. S.E. Smith, pp. 578-584. New York: Random House, 1969.
- Hoffman, Carl W. Saipan: The Beginning of the End. Washington, D.C.: Marine Corps Historical Center, 1950.
- Hough, Frank O. The Island War: The United States Marine Corps in the Pacific. Philadelphia: J.B. Lippincott, 1947.
- Hoyt, Edwin P. Carrier Wars: Naval Aviation from World War II to the Persian Gulf. New York: McGraw-Hill, 1989.
- Hoyt, Edwin P. To the Marianas: War in the Central Pacific 1944. New York: Van Nostrand Reinhold, 1980.
- James, D. Clayton. A Time For Giants: Politics of the American High Command in World War II. New York: Franklin Watts, 1987.
- Larrabee, Eric. Commander in Chief: Franklin Delano Roosevelt, His Lieutenants, and Their War. New York: Simon and Schuster, 1987.
- Morison, Samuel Eliot. History of United States Naval Operations in World War II, Volume VIII: New Guinea and the Marianas, March 1944-August 1944. Boston: Little, Brown, and Company, 1953.
- Mortensen, Bernhardt L., and James C. Olson. "The Marianas." In The Army Air Forces in World War II, Volume IV, The Pacific: Guadalcanal to Saipan, August 1942 to July 1944, ed. James Lea Cate and Wesley Frank Craven, pp. 671-693. Chicago: University of Chicago Press, 1950.
- Navy Times Editors. Operation Victory: Winning the Pacific War. New York: G.P. Putnam's Sons, 1968.

- Potter, E.B. Nimitz. Annapolis, MD: Naval Institute Press, 1976.
- Renzi, William A. and Mark D. Roehrs. Never Look Back: A History of World War II in the Pacific. Armonk, New York: M.E. Sharpe, 1991.
- Sherrod, Robert. History of Marine Corps Aviation in World War II. Baltimore: The Nautical and Aviation Publishing Company of America, 1987.
- Van der Vat, Dan. The Pacific Campaign: World War II, the U.S.-Japanese Naval War 1941-1945. New York: Simon and Schuster, 1991.
- Y'Blood, William T. The Little Giants: U.S. Escort Carriers Against Japan. Annapolis, MD: Naval Institute Press, 1987.

Studies

- Buckley, Edward T., Jr. "Saipan and Joint Operations." Individual Study Project, U.S. Army War College, Carlisle Barracks, PA, 1990.
- Morton, Louis. "Pacific Command: A Study in Interservice Relations." Colorado Springs: U.S. Air Force Academy, 1961.

Periodicals

- Miller, Thomas G., Jr. "Anatomy of an Air Battle." In American Aviation Historical Society Journal, Summer 1970, pp. 115-120. Santa Ana, CA: American Aviation Historical Society, 1970.

Government Documents

- Commander Fifth Fleet, "Final Report on the Operation to Capture the Marianas Islands," 30 August 1944 (microfiche). In Microfilm Edition of U.S. Navy Action and Operational Reports from World War II, Pacific Theater, Part 3: Fifth Fleet and Fifth Fleet Carrier Task Forces. Bethesda, MD: University Publications of America, 1990.
- Commander Fifth Fleet, Operation Plan Number CEN 10-44, 12 May 1944. Special Collections, U.S. Army Combined Arms Research Library, Fort Leavenworth, Kansas.
- Commander Task Force 51, Operation Plan A10-44, 24 May 1944. Special Collections, U.S. Army Combined Arms Research Library, Fort Leavenworth, Kansas.
- Commander Task Force 52, Attack Order Number A11-44, 21 May 1944. Special Collections, U.S. Army Combined Arms Research Library, Fort Leavenworth, Kansas.
- Commander Task Force 58, "Gateway Operation-Action Report Of," 12 March 1944 (microfiche). In Microfilm Edition of U.S. Navy Action and Operational Reports from World War II, Pacific Theater, Part 3: Fifth Fleet and Fifth Fleet Carrier Task Forces. Bethesda, MD: University Publications of America, 1990.

_____. "Operations in Support of the Capture of the Marianas-Action Report Of," 11 September 1944 (microfiche). In Microfilm Edition of U.S. Navy Action and Operational Reports from World War II, Pacific Theater, Part 3: Fifth Fleet and Fifth Fleet Carrier Task Forces. Bethesda, MD: University Publications of America, 1990.

Northern Troops and Landing Force, Operation Plan 3-44, 1 May 1944. Special Collections, U.S. Army Combined Arms Research Library, Fort Leavenworth, Kansas.

Northern Troops and Landing Force, Forager Operation Plan (Alternate) 4-44, 28 May 1944. Special Collections, U.S. Army Combined Arms Research Library, Fort Leavenworth, Kansas.

U.S. Army Air Force, "Organizational History, Headquarters 318th Fighter Group, VII Fighter Command, Seventh Air Force, June 1-July 31, 1944." Maxwell AFB, AL: U.S. Air Force Historical Research Facility.

U.S. Army Air Force, "Organizational History, 19th Fighter Squadron, 318th Fighter Group, VII Fighter Command, Seventh Air Force, June 1-July 31, 1944." Maxwell AFB, AL: U.S. Air Force Historical Research Facility.

U.S. Army Air Force, "Participation in the Marianas Operation: USAAF in the Central Pacific Area," Volume II, 1944. Special Collections, U.S. Army Combined Arms Research Library, Fort Leavenworth, Kansas.

INITIAL DISTRIBUTION LIST

1. Combined Arms Research Library
U.S. Army Command and General Staff College
Fort Leavenworth, KS 66027-6900
2. Defense Technical Information Center
Cameron Station
Alexandria, VA 22314
3. Naval War College Library
Hewitt Hall
U.S. Navy War College
Newport, RI 02841-5010
4. LTC Kevin Garrison
Leadership Instruction Department
U.S. Army Command and General Staff College
Fort Leavenworth, KS 66027-6900
5. Thomas M. Huber, Ph.D.
Combat Studies Institute
U.S. Army Command and General Staff College
Fort Leavenworth, KS 66027-6900
6. CDR Richard P. Ferguson
Department of Joint and Combined Operations
U.S. Army Command and General Staff College
Fort Leavenworth, KS 66027-6900